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Miles to Go

Bringing School Transportation into the 21st Century

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Introduction

Nearly 500,000 school buses[1] transport more than 25 million students,[2] over half of the U.S. K–12 population, to and from school each day.[3] In fact, America's fleet of school buses is more than twice the size of all other forms of mass transit combined, including bus, rail, and airline transportation.[4] There is no doubt that school buses are an iconic part of America's schools. "National School Bus Glossy Yellow," the official color of yellow buses, is even part of the National Highway Traffic Safety Administration's guidelines for school transportation operations.[5]

The traditional yellow school bus was a prominent symbol of American education through the 20th century, but should it remain so in the 21st? After all, the larger transportation sector has seen significant changes in recent history. Over 4 million hybrid cars drive American roads—a remarkable trajectory since their introduction to the U.S. automobile market in the late 1990s.[6] Self-parking and automatic braking technology is common on personal luxury vehicles, and mass-market self-driving cars could be around the corner.[7] Services like Uber and Lyft have revolutionized on-demand personal transportation, creating significant competition for decades-old traditional taxi services.[8] But school transportation still looks much like it has for the past 50 or more years.

Despite its symbolic value, the yellow school bus creates significant operational and environmental inefficiencies in many districts—inefficiencies that increasingly drain district budgets, hamper families' access to high-quality schools outside their neighborhoods, and damage the environment.

While the traditional, district-operated school transportation model accounts for nearly two-thirds of all school buses on the road today,[9] many districts have turned to contracting with private providers or relying on public transit to meet some or all of their school transportation needs. Movement to different service models is attributable in part to the changing nature of school districts, particularly in urban areas. The dominant yellow bus transportation system is designed to serve a "traditional district," where students attend centrally located neighborhood schools. But more and more districts are offering families the option to choose from among public schools regardless of their geographic proximity to home. For example, there are now over 6,000 charter schools enrolling nearly 3 million students nationwide.[10] The transportation needs of students who are now crossing town versus crossing the street to attend school are changing the way these districts must think about and deliver school transportation.

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The cost of providing school transportation is also increasing. Since 1980, the average cost per student transported has increased by over 75 percent, attributable in part to a steady decline in ridership.[11] The growing cost of providing bus service challenges schools' ability to invest in updating and upgrading bus fleets and other system infrastructure. As a result, an estimated 250,000 school buses manufactured before 2007, when more stringent emissions regulations took effect, remain in operation.[12] As costs have increased, so too has the impact that school buses have on the environment.

This report examines the structure of school transportation systems, the surrounding regulatory landscape, school transportation funding mechanisms, student safety, the impact of school choice, the growing need for school transportation data, and school transportation's effect on the environment. Drawing from these various perspectives, it asks whether the traditional system of district-provided school transportation is the best way to get kids to school in different district contexts, explores potential alternatives, and analyzes the practical and policy barriers and incentives around student transportation.

The conclusion is that it's complicated. School buses unequivocally provide the safest option for transporting students to and from school. And schools have an interest in ensuring reliable transportation service to facilitate student attendance. But this service comes at great cost to districts, and where service quality is poor, ridership may be low. If students aren't taking the bus, then safety and efficiency benefits of transporting students by bus aren't realized. And when service is unreliable, then kids are late to school. However, most states restrict the degree to which districts can explore alternative operational models while at the same time failing to fully fund the cost of local school transportation services.

To address these issues within the district-provided transportation model, we recommend:

- investments in basic data collection and technology to drive improved efficiency,
- changes to state funding structures to incentivize efficiency and smart management of capital assets, and
- increased policy flexibility at both the federal and state levels so districts can make decisions that are responsive to the needs of students and families and the local school system context.

But we also recommend that policymakers and the education sector take a hard look at whether it makes sense for school districts to continue as the central administrators of school transportation services, particularly in larger metropolitan areas. At a minimum, districts in metropolitan areas should coordinate with the broader transportation sector to share expertise and consider school transportation decisions in the broader context of community transportation systems. Beyond that, given how much has changed in school systems even in the last 30 years with the growth of choice options, it may be time to consider shifting the administration of school transportation away from schools themselves to a regional entity that may be better equipped to design transportation for a system of schools less beholden to neighborhood or even district boundaries.

The Structure of Student Transportation Systems

Little has changed in student transportation since school buses came on the scene in 1939, when representatives from 48 states developed the first set of school bus standards.[13] Nearly 80 years later, the iconic yellow school bus continues to dominate public school transportation. Currently schools operate about 480,000 school buses,[14] transporting more than 25 million students[15] or about 55 percent of the nation's K–12 population.[16]

The Three Primary Service Models

Three primary service models define the ways districts transport students to and from school: district-provided yellow bus service, contracted yellow bus service through private providers, or reliance on public transit.

District-provided transportation service is by far the most common operational model, and districts own about two-thirds of all yellow school buses.

District-provided transportation service is by far the most common operational model, and districts own about two-thirds of all yellow school buses.[17] In a district-run system, districts control all elements of school transportation. They purchase buses, plan bus routes, manage vehicle maintenance, and hire, train, and manage bus drivers and other transportation personnel. Under most district-run models, students who live beyond a certain minimum distance from their schools are eligible for bus service. The specific eligibility requirements, such as the distance threshold and exceptions to general eligibility, vary based on districts' makeup and state requirements for providing bus service. For instance, to protect student safety, a district with hazardous pedestrian conditions near schools—such as railroad crossings, busy highways, or a lack of adequate sidewalks—may opt to transport students living within a smaller radius of the school than a state eligibility policy dictates.

Contracting with a private transportation provider for yellow bus service follows behind direct district-provided service as the second most common model for structuring transportation services. Private contractors own roughly one-third of all yellow buses.[18] Contracted bus service operates in largely the same way as district-provided service. However, like other privatized services, the responsibility for managing the system is no longer borne by the district. Instead, the contractor controls school bus purchases, fleet maintenance, and human capital management. Districts dictate which services contractors provide through the contracting process, which can stipulate operational details as well as technological requirements such as using alternatively fueled buses.[19]

The third method, reliance on public transit, is much less common and generally only used in large urban districts with robust public transit systems. Under this method, students commute to school using the city's existing public transit infrastructure. Often, the district, city, or county partially or fully subsidizes students' fares. However, relying on public transit provides districts with little to no control over operations. Federal regulations prevent public transit providers from providing student-only buses and routes apart from the general public (see "The Intersection of Federal Transportation and School Transportation Regulation," page 14). Thus, students ride public transit with the general public and are not transported directly to their school, unless a particular school's location is also a regularly scheduled public transit destination.

While these models can exist independently, they are often combined. For example, Cincinnati Public Schools provides school bus transportation for students in grades K–6, while students in grades 7–12 are responsible for traveling to school using public transit. Additionally, the district contracts with private providers on an ad hoc basis when it needs additional bus capacity beyond its own fleet's capabilities.[20]

Human Capital

According to the Bureau of Labor Statistics' most recent employment data, U.S. schools employ over 500,000 school bus drivers.[21] Federal regulations require all school bus drivers to obtain a commercial driver's license (CDL), undergo drug and alcohol testing, and receive additional training before transporting children. While the exact requirements of training vary by state, it ranges from about 10 to 40 hours and includes topics such as behavior management, emergency procedures, and first aid.[22]

On average, school bus drivers earn about $14.70 per hour,[23] significantly less than other occupations that require a CDL. For example, transit and intercity bus drivers earn an average of $19.31 per hour,[24] while heavy and tractor-trailer truck drivers make over $20 per hour.[25]

Due to the higher average pay that drivers can find in other industries requiring similar qualifications, both districts and contractors struggle to hire an adequate number of school bus drivers.

Due to the higher average pay that drivers can find in other industries requiring similar qualifications, both districts and contractors struggle to hire an adequate number of school bus drivers, and this shortage is felt fairly consistently across the country. According to a survey of school bus contractors by School Bus Fleet, an industry organization, 28 percent of respondents indicated a severe or desperate shortage. Only 6 percent of respondents reported having no shortage of drivers. That was down from 2014 and 2013, when 15 percent and 27 percent, respectively, reported having no driver shortage.[26] This recent uptick in driver need is also linked to the ongoing economic recovery—as unemployment decreases, the severity of bus driver shortages tends to increase.[27]

School Transportation Regulatory Landscape

Districts must comply with regulation of student transportation from both federal and state government. Federal regulations focus primarily on student safety, establishing requirements and guidelines for school bus manufacturers. Federal law also establishes certain rights and requirements for transportation service for homeless students and students with disabilities. But for the general education population, state governments regulate the structure and function of school transportation operations.[28]

Federal Regulations on School Bus Manufacturing

The National Highway Traffic Safety Administration (NHTSA) implements and enforces federal regulations related to manufacturing, codified in the Federal Motor Vehicle Safety Standards (FMVSS).[29] Of these standards, more than 30 apply to school buses,[30] including requirements for pedestrian safety devices, seating, and rollover protection.

School buses are federally defined as passenger motor vehicles "designed or used to carry more than 10 passengers in addition to the driver, and which the Secretary of Transportation determines [are] likely to be significantly used for the purpose of transporting pre-primary, primary, or secondary school students from home to school or school to home" (see "School Bus Specifications," page 11).[31] For purposes of regulation, "schools" do not include day cares, child care centers, or preschools, and NHTSA regulations do not apply to the manufacture of vehicles used for transporting children to and from these facilities.[32]

Figure 1 School Bus Specifications

There are seven vehicle types that can be manufactured to meet various Federal Motor Vehicle Safety Standards (FMVSS) for school buses. Additionally, there is one style of vehicle commonly used for school transportation purposes that does not meet the applicable FMVSS.[i]

		Weight		Federal Motor Vehicle Safety Standards		
	Bus Type	Over 10,000 lbs	Requires seatbelts	Crash-worthiness	Traffic control	Conspicuity
	Type A-1	No	Yes	Yes	Yes	Yes
	Type A-2	Yes	No	Yes	Yes	Yes
	Type B	Yes	No	Yes	Yes	Yes
	Type C	Yes	No	Yes	Yes	Yes
	Type D	Yes	No	Yes	Yes	Yes
	Multifunction School Activity Bus	Varies	Varies	Yes	Yes	No
	School Van	No	Yes	Yes	Yes	Yes
	Allowable Alternate Vehicle	No	Yes	Yes	No	No
	Non-Conforming Van	No	Yes	No	No	No

i American Bus Sales, "The Seven Different School Bus Types," accessed November 2016, http://www.americanbussales.net/seven-different-school-bus-types/

Regulations Unique to Special Student Populations

The federal government also sets certain requirements for two special populations: students with disabilities and homeless students.

Transportation requirements for students with disabilities are established under the Individuals with Disabilities Education Act of 2004 (IDEA). Under IDEA, schools must provide students eligible to receive special education services with an Individualized Education Program (IEP)—a written document establishing the details of the student's specialized instruction and any related services. The law requires districts to ensure that any transportation service included in a student's IEP as a related service is provided at public expense, at no cost to the student's family.[33] If a student's IEP does not include transportation as a related service, IDEA requires that the student receive the same transportation provided to students without disabilities.[34] IDEA's definition of transportation includes travel to and from school and between schools; travel in and around school buildings; and the use of specialized equipment such as special or adapted buses, lifts, and ramps.[35]

Federal law also requires certain provisions for homeless students under the McKinney-Vento Education of Homeless Children and Youth Assistance Act (McKinney-Vento). According to McKinney-Vento, the term "homeless children and youth" is defined as "individuals who lack a fixed, regular, and adequate nighttime residence." This includes children and youth who:

- Share the housing of other persons due to loss of housing, economic hardship, or similar reason; are living in motels, hotels, trailer parks, or camping grounds due to the lack of alternative accommodations; are living in emergency or transitional shelters; are abandoned in hospitals; or are awaiting foster care placement;
- Have a primary nighttime residence that is a public or private place not designed for or ordinarily used as a regular sleeping accommodation for human beings; or
- Live in cars, parks, public spaces, abandoned buildings, substandard housing, bus or train stations, or similar settings.[36]

If requested by a parent, guardian, or local homeless education liaison, districts are required to provide homeless students with transportation to and from their "schools of origin"—the schools attended by the students when permanently housed or the schools in which the students were last enrolled. If the students are living outside of the school of origin's district, that district and the district in which the students live must determine how to divide the responsibility and cost of providing transportation to and from the schools of origin.[37] This policy is intended to promote stability in the lives and education of students living in unstable conditions.

While it is critically important to ensure that the unique needs of these populations are met, doing so can also place a large burden on school districts. Special equipment and special routes drive increased cost and may reduce system efficiency. For example, transporting a small group, or even a single homeless student, across districts can drive significant cost. State and local policies limiting districts' options for reducing costs, such as requiring that only school buses may be used to transport students, can exacerbate these inefficiencies. Atlanta provides an example of a metropolitan area with multiple school districts and a relatively large population of homeless students who qualify under McKinney-Vento (see "McKinney-Vento Transportation in Atlanta Public Schools," below).

Sidebar 1

McKinney-Vento Transportation in Atlanta Public Schools

Among other things, the McKinney-Vento Education of Homeless Children and Youth Assistance Act (McKinney-Vento) sets requirements for transporting homeless students to and from school.[i] While the law seeks to ensure that schools and districts are meeting the needs of homeless students by stabilizing their educational environment, it can also put pressure on student transportation budgets.

The experience in Atlanta Public Schools (APS) provides a salient example.

As of the 2013–14 school year, schools in Georgia enrolled nearly 38,000 homeless students, one of the largest state populations of homeless students in the country.[ii]

In fiscal year 2010, according to the Georgia Department of Education, nearly a thousand of those students were enrolled in APS. When including the six counties in which APS buses students (Clayton, Cobb, Dekalb, Fulton, Gwinnett, and Henry), that total swelled to just under 10,000.[iii]

According to John Franklin, APS' transportation director, this creates a significant operational challenge for APS' transportation services.

Under McKinney-Vento, districts are held responsible for providing homeless students with transportation to and from their "schools of origin," even if a student is living outside the origin school's district boundaries.[iv] So if a student is currently living within APS' boundaries, but his or her origin school is in a different district, APS and that district must work together to determine how transportation services will be delivered. The same is true when homeless students are attending an APS school but living in another district.

Given the inter-district mandate inherent in McKinney-Vento's transportation requirements, picking up and dropping off a homeless student is often a "one-off trip," serving a small number of students or even a single student and not part of a district's regularly scheduled school bus routes. For efficiency reasons, Franklin would like to use smaller vehicles (rather than a full-sized school bus) such as a van or town car to coordinate transportation between specific students'

Continued on next page

Sidebar 1 *continued*

residences and the schools they attend. However, Georgia's school transportation laws require that students be transported to and from school only on a school bus. This means that Franklin must regularly deploy school buses across district lines, even if he only needs to transport a single student.[v]

Unsurprisingly, APS receives nearly the largest allotment of federal McKinney-Vento funding in the state. Of the $2.4 million awarded by the Georgia Department of Education in FY 2010, $70,000 went to APS. Only two LEAs in the state received more.[vi]

Federal requirements for transporting students covered under McKinney-Vento, combined with state-level restrictions on vehicle use, create a large burden for APS. This is likely the case across multiple districts, highlighting the challenges of complying with intersecting regulations from multiple levels of government and balancing complex considerations such as student rights, safety, cost, and operational efficiency intrinsic in school transportation services.

i National Center for Homeless Education, "Transporting Children and Youth Experiencing Homelessness," updated April 2015, pp. 1–2, http://center.serve.org/nche/downloads/briefs/transportation.pdf.

ii U.S. Department of Education, "Total Number of Homeless Students Enrolled in LEAs With or Without McKinney-Vento Subgrants—Total: 2013–14," accessed August 2016, http://eddataexpress.ed.gov/data-element-explorer.cfm/tab/data/deid/5353/sort/idown/.

iii John Barge, "McKinney-Vento Education for Homeless Children and Youth: Data Collection Summary FY08-FY10," Georgia Department of Education, July 5, 2011, pp. 9–13, http://www.naehcy.org/sites/default/files/dl/conf-2012/endres-ga-rpt.pdf.

iv National Center for Homeless Education, "Transporting Children and Youth Experiencing Homelessness," pp. 1–2, http://center.serve.org/nche/downloads/briefs/transportation.pdf.

v John Franklin, transportation director, Atlanta Public Schools, phone interview, April 18, 2016.

vi Barge, "McKinney-Vento Education for Homeless Children and Youth: Data Collection Summary FY08–FY10," p. 2, http://www.naehcy.org/sites/default/files/dl/conf-2012/endres-ga-rpt.pdf.

The Intersection of Federal Transportation and School Transportation Regulation

Though the federal government plays a large role in the funding and planning of the nation's overall transportation systems, the federal role in school transportation specifically is much more limited and focused on the regulations and protections outlined above.

The current authorization of the primary federal transportation law, the Fixing America's Surface Transportation (FAST) Act, only addresses school transportation project funding in the context of the Safe Routes to School program, which was created in 2005 to encourage investment in projects to improve bicycling and walking conditions near schools and

create safe connections for students using these modes. This program was funded by a "sub-allocated" pot of federal money to be used by state departments of transportation (DOTs) and/or metropolitan planning organizations (MPOs) (see "What are MPOs and RCs?" below) on competitive grants for qualifying projects in this category. In 2012, the Safe Routes to School program was combined with other bicycling and walking programs into a new program called the Transportation Alternatives Program (TAP). There is less total funding available for the Transportation Alternatives Program than for the programs that were consolidated, and there is no longer dedicated funding for Safe Routes to School.[38]

Sidebar 2

What are MPOs and RCs?

Since the 1960s, Congress has required a "metropolitan planning process" for urbanized areas with populations over 50,000, establishing MPOs as the bodies that lead this planning and administer related federal dollars. MPOs create both short- and long-term plans for transportation improvement, as well as plans for managing traffic congestion and soliciting public input.[i]

Specifically, federal law outlines five core functions of MPOs:

- Establish and manage a fair and impartial setting for effective regional decision-making in the metropolitan area;
- Identify and evaluate alternative transportation improvements;
- Prepare and maintain long-term transportation plans;
- Program transportation funds; and
- Involve the public.[ii]

Because transportation systems touch on other regional priorities like economic development, employment access, public health and safety, and environmental quality, MPOs can leverage their transportation authority to address these broader issues.[iii]

As of the most recent census, the Federal Highway Administration has identified 420 MPOs.[iv] Their specific structure and functions vary across the country, and they often work in concert with other regional agencies, such as regional councils.

RCs, also referred to as councils of governments (COGs), regional planning commissions, regional commissions, or planning districts, are "multi-service entities with state- and locally-defined boundaries that deliver a variety of federal, state, and local programs."[v]

Continued on next page

Sidebar 2 *continued*

Of the roughly 39,000 local governments in the United States (counties, cities, townships, towns, etc.), more than 35,000 are served by RCs,[vi] and nearly half of all MPOs operate as part of an RC serving the same general geographic area.[vii] Essentially, MPOs and RCs can serve similar functions, but are held accountable by different levels of government—MPOs by the federal government, and RCs by local or state governments—though MPO boards include representatives from state and local governments. RCs typically deal with a broad variety of issues that benefit from regional planning and coordination, whereas MPOs by nature primarily focus on transportation.

i Mariia Zimmerman, "The Innovative MPO," *Transportation for America*, December 2014, pp. 134–143, http://www.t4america.org/wp-content/uploads/2014/12/The-Innovative-MPO.pdf.

ii Ibid.

iii Ibid.

iv National Association of Regional Councils, "What Is a Regional Council or Council of Governments?," accessed December 2016, http://narc.org/about-narc/cogs-mpos/.

v Ibid.

vi Ibid.

vii Ibid.

Beyond the Safe Routes to School program, in recent years there has been some federal legislative activity aimed at mitigating the budgetary effect of rising fuel costs on school districts. These efforts have not gained much traction, however, especially since the exceptionally high fuel costs of the latter part of the last decade have ebbed.[39]

While the federal government's specific involvement in school transportation is primarily limited to regulating safety standards and targeted efforts like Safe Routes to School, some federal transportation regulations related to non-school public transit indirectly affect school transportation service. Through the U.S. Department of Transportation's Federal Transit Administration (FTA), which regulates public transit systems, the federal government imposes regulations preventing public transit providers from competing against private school bus operators. Known as "tripper regulations," these rules do not apply directly to school districts, but limit the ways in which public transit systems and school districts can collaborate for service.[40]

Tripper service is defined as "regularly scheduled mass transportation service which is open to the public, and which is designed or modified to accommodate the needs of school students and personnel, using various fare collections or subsidy systems."[41]

Buses used in tripper service can only stop at regular service stops along regular routes, as indicated by published route schedules. These buses must be "clearly marked as open to the public and may not carry designations such as 'school bus' or 'school special.'"[42] They also cannot use a school name as the designated destination unless that school is the "final destination of a regularly scheduled mass transportation route."[43]

These regulations do not prevent students from using public transit to go to and from school. Many urban districts count on public transit to provide transportation for certain grade levels; in fact, the District of Columbia's public schools rely almost entirely on the city's public transit system.[44] Public transit providers can also offer students special reduced or cost-free fares.

However, tripper regulations prevent transit systems from offering service that is intended *only* for students. Districts can either provide their own school transportation services, or they can have students rely on the local public transit system—but the two systems must remain separate. As such, these regulations limit options for districts to meet transportation needs purely through collaboration with public transit systems. For example, the local public transit provider cannot operate a special set of buses for students in the mornings and afternoons to transport them to and from school. Students using public transit to get to and from school must use regular routes open to the public.

Many districts that rely on public transit for school transport do so primarily for students in older grades—either to comply with transit rules regarding the minimum age for unaccompanied riders or due to a lack of comfort with requiring younger students to navigate the public transit system.

Many districts that rely on public transit for school transport do so primarily for students in older grades—either to comply with transit rules regarding the minimum age for unaccompanied riders or due to a lack of comfort with requiring younger students to navigate the public transit system. Figure 2 provides details on select districts' relationship with the broader public transit systems in their communities. As a result, these districts operate or contract for a completely parallel bus service, thereby incurring administrative costs for running a system that operates side-by-side with the larger transportation infrastructure of a city. While it's possible that districts would opt to run their own systems for a portion of their student population regardless to accommodate special needs or circumstances (e.g., homeless students or students with disabilities), tripper regulations preclude even the possibility of exploring a more integrated system in which public transit systems directly meet students' and schools' transportation needs as well as the transit needs of the broader community.

Figure 2

Large Urban School Districts' Reliance on Public Transit

	District	Student Population (as of 2010)	Relies on Public Transit	Students Bused	Students Using Public Transit	Public Transit Policy
New York	New York City	995,336	Yes	Grades K–6 (some)	Grades K–6 (some); Grades 7–12 (all)	District provides discounted or free public transit fares, depending on grade and distance from school.
Los Angeles	Los Angeles Unified	667,273	Yes	Only certain programs	Grades K–12	Local transit authority provides discounted fares for students.
Chicago	City of Chicago (SD 299)	405,644	No	Grades K–12	None	Local transit authority provides discounted fares for students.
Houston	Houston ISD	204,245	No	Grades K–12	None	Local transit authority provides discounted fares for students.
Philadelphia	Philadelphia City	166,233	Yes	Grades 1–6	Grades 7–12	District provides free public transit fares for grades 7–12.
Dallas	Dallas ISD	157,162	No	Grades K–12	None	Local transit authority provides discounted fares for high school students and children ages 5–14.
Austin	Austin ISD	85,697	No	Grades K–12	None	Local transit authority provides discounted fares for students.
Jacksonville	Duval	123,997	No	Grades K–12	None	Local transit authority provides discounted fares for youth ages 18 and under.
San Francisco	San Francisco Unified	55,571	Yes	Only certain low-income students	K–12	Local transit authority provides free fares for low- and moderate-income youth ages 5–18; discounted fares for high-income youth.
Columbus	Columbus City	51,134	No	Elementary and Middle School	High school	Local transit authority provides discounted fares for children ages 12 and under.

Source: Data collected by the authors from various state web sites and third party resources regarding school districts' use of public transit.

State Regulations and School Transportation Policy

While the federal government regulates school bus manufacture and service for certain special populations, states regulate most other aspects of student transportation service.

One of these elements is vehicle use. "School buses" are federally defined, and NHTSA decides what specifications are required to manufacture and sell them, but each state determines for its districts what types of vehicles can be used to transport students to and from school.[45] In other words, federal regulations define what features a "school bus" must include, but states decide whether districts are required to use school buses at all or exclusively, or if other types of vehicles are permitted.

For example, according to federal regulations, a van with capacity for more than 10 passengers cannot be sold or leased to districts for use as a "school bus" unless it meets all of the federally required safety standards.[46] However, states can allow passenger vans that don't meet the federal definition of "school bus" to be used for student transportation, and some do.

While 29 states prohibit using passenger vans to transport public school students in any way, 11 allow their use for school-related activities like field trips and sporting events only. Eight states allow the use of passenger vans for these activities in addition to daily transport to and from school.[47] States also determine requirements for eligibility to receive school transportation for all students other than students with disabilities and homeless students. When transportation is provided for the general student population, states typically define eligibility for school bus service based on the distance between students' homes and the school they attend or to which they are assigned. Students living outside a set distance from their school are eligible to receive bus service. Often, states will also use grade level as a factor in determining eligibility, so that the distance required for eligibility is shorter for younger students than for older students.

States typically define eligibility for school bus service based on the distance between students' homes and the school they attend.

For example, in Colorado, students in grades K–5 must reside more than one mile from their assigned school to qualify for transportation. Students in grades 6-8 must reside more than 2.5 miles from their school to qualify, and high school students must reside more than 3.5 miles from their school.[48]

Meanwhile, in Ohio, students in grades K–8 qualify for school transportation if they live more than two miles from their assigned school, but there is no requirement for transporting high school students.[49] In some states—like California[50] and Indiana[51]—providing school transportation is not required by the state at all, and districts determine whether or not to provide service and establish eligibility criteria locally.

In addition, states may allow for exceptions based on hazardous walking conditions. For example, if a student must cross railroad tracks or a highway while walking to and from school, that student may qualify for bus service even if he or she lives closer to the school than the standard threshold for eligibility.

In some cases, state standards for student transportation eligibility tie to state funding for school transportation services, where districts only receive funding based on service provided to eligible students, though the district could opt to provide service to ineligible students as well.

Funding for School Transportation

While the specifics of transportation funding vary from state to state, most state strategies for funding student transportation fall into one of three categories:

- **Cost-based reimbursement.** Some states reimburse districts for a portion of actual costs or based on a formula that estimates costs based on average expenditures, historical expenditures, or costs of various inputs, such as fuel and driver wages.
- **Per capita reimbursement.** Some states provide a set funding level per student to cover transportation costs. These per capita rates may be adjusted for cost factors (commonly fuel prices) or district characteristics (often to account for geographic sparsity that may drive higher transportation costs).
- **Linear density or mileage-based reimbursement.** Other states base transportation funds on the number of bus miles traveled or a calculation of "linear density," which represents the average miles traveled per student. Linear density calculations allow for adjustments for economies of scale differences between more urban and more rural districts, though even without that calculation, many states adjust reimbursements in other ways to help offset higher costs in geographically large, sparsely populated districts.

In some states, costs for operations (driver wages, maintenance, fuel, etc.) and capital costs (bus and facilities purchases) are covered under the same formula allotment. Other states separate these costs and may provide separate funding streams for capital expenditures. Capital funding strategies commonly include assistance with debt financing through state-backed loans or bond issues or direct funding from the state for capital purchases. In addition, many states either directly run or enable regional purchasing cooperatives through which districts can join together to purchase capital assets like school buses in larger quantities, allowing them better purchasing terms than they could get on their own.

Regardless of the actual funding structure, state transportation funding rarely covers the full cost of providing student transportation services. Only three states provide full funding as a matter of policy. Hawaii is a single-district state. Wyoming covers 100 percent of district transportation costs on a reimbursement basis, and South Carolina fully funds and monitors school transportation at the state level. In every other state for which information was collected, states and districts share the cost of student transportation. In some cases, the state's share automatically adjusts for increases in actual costs. But often, funding levels are subject to legislative appropriations, and in several states reimbursement rates have stagnated over time. Districts must fund the balance of those costs from other funding sources to maintain similar levels of service. To the extent that transportation costs increase without an increase in the allocation of funding specifically for transportation, districts must divert a larger share of funds that could otherwise be spent for other purposes.[52]

The diminishing state share of school transportation funds creates a natural incentive for school districts to seek cost efficiencies.

The diminishing state share of school transportation funds creates a natural incentive for school districts to seek cost efficiencies. But districts' ability to be efficient is limited by state and federal laws and regulations requiring bus service, establishing student eligibility for service, and limiting vehicle choices. Beyond those requirements, in most states, districts have latitude in selecting operational models, such as choosing to directly operate or contract for service. Contracting enables districts to get out of the business of running transportation systems directly. If the district can negotiate favorable contract terms with a provider who can spread overhead costs across multiple contracts, contracting for service can potentially save districts money.

While contracting out transportation services may provide cost-saving opportunities for some districts, it is not a panacea for efficiency issues. According to an analysis conducted by TransPar Group, a transportation consulting and management company, contracting can provide immediate savings for districts that have inefficiencies related to factors like vehicle use, staffing, and maintenance. However, districts' transportation costs depend heavily on their education operations and structure. Factors like school siting, enrollment practices, and bell schedules affect transportation requirements. Simply contracting with a private provider does not change these factors.[53]

In some cases, contracting may actually increase costs. For example, a report from the Harrisburg-based Keystone Research Center found that Pennsylvania districts pay more when opting to contract out transportation services compared to directly running transportation services themselves. After controlling for variables like enrollment, fuel costs, and districts' wealth and income, the researchers concluded total costs increase by roughly $224,000 when the average district transitions from providing its own bus service to contracting with a private provider.[54]

Some of the drivers of this cost differential for contracting are unique to Pennsylvania. For example, the state provides more generous reimbursement rates for districts that contract out transportation services, creating an incentive for contracting. Unsurprisingly, the majority of Pennsylvania's school transportation is contracted—72 percent as of 2008.[55]

However, other factors contributing to comparatively higher costs for contracting could apply to districts more generally. Once a district decides to contract and sells its bus fleet, contractors have more leverage in contract negotiations because insourcing transportation services again would require repurchasing buses—a heavy burden for districts with limited capital. Contracting costs can also be higher where a small number of private providers leads to limited competition.[56] For example, the transportation company FirstGroup acquired Laidlaw Education Services in 2007. With this acquisition, FirstGroup operated over 10 percent of all school buses in the United States and Canada. As a result, 11 states brought an antitrust suit claiming they would face higher transportation bids due to the acquisition. The suit was settled in federal court, with FirstGroup agreeing to sell off some of its district contracts and assets—like buses and depots—and to pay the states' $1.1 million in legal costs.[57]

Contracting may not always be the most cost-effective option for a district, but in select cases, state policy makes even the consideration of this option less appealing. For instance, in South Carolina, where all transportation costs including bus purchases are funded by the state, districts have little incentive to explore contracted services.[58] One strength of contracting from a district point of view is the freedom from having to purchase, maintain, and manage a fleet of buses, but with the state controlling the purchase and replacement of buses, this potential advantage becomes non-viable. And while contracting may ultimately not result in improved efficiency in any given South Carolina district, little evidence exists that the state-run system is adequately addressing district needs. In recent years, start-of-school-year news stories from South Carolina are riddled with reports about excessively long routes and "the state's aging fleet," which calls into question both student safety and the operating efficiency of vehicles, many of which are more than 15 or 20 years old.[59]

Some districts have sought to offset transportation costs on the revenue side. One strategy is to charge parents for school transportation service, which is most commonly provided to students for free. According to a report conducted by the Florida Legislature's Office of Program Policy Analysis and Government Accountability (OPPAGA), 12 states allow districts to charge parents fees for transporting students to and from school. Hawaii charges a fee at the state level that cannot exceed 50 percent of actual cost and that is prorated for income and for students with disabilities. Nineteen other states, however, prohibit such fees.[60]

12 states allow districts to charge parents fees for transporting students to and from school.

Certain districts in California, Colorado, Iowa, Kansas, Massachusetts, and Texas have begun charging parents for transportation. In the districts surveyed for the OPPAGA report, fees ranged from $180 to $575 per student per year.[61] [62]

A different, and less common, revenue-side strategy is to compensate families for opting out of district transportation. In Ohio, for example, bus service is required for students in grades K–8 who live at least two miles from their assigned school.[63] However, a parent or guardian of an eligible student may accept "payment in lieu of transportation" from the local school board if the board deems busing that student "impractical." In Ohio, these payments can range from $250 to the state's average per-student cost of transportation for the previous school year. For the 2015–16 school year, the maximum payment allowed is $925.08.[64] To the extent that a sufficient number of families participates to affect the needed capacity of the system, this practice could result in a savings to the district.

In some parts of the country, states and districts have shrunk transportation costs by eliminating the service altogether.

In some parts of the country, states and districts have shrunk transportation costs by eliminating the service altogether. This is most common in urban districts where robust public transit systems exist. When services are eliminated, districts still transport students with disabilities and homeless students—as is required under federal law—but the general student population commutes to school by foot, in personal vehicles, or via public transit.

For example, the District of Columbia has relied on public transit for decades, offering subsidized fares since 1978, just two years after the first lines of the region's subway system opened.[65] Students can ride public transit, which includes bus and subway service, at no cost during school commuting hours. According to the Washington Metropolitan Area Transit Authority, or WMATA, roughly 25,000 student trips are recorded each day. Of these trips, 81 percent occur on buses, while 19 percent are on Metrorail.[66] While this is a significant expense for the city, the Office of the Deputy Mayor for Education indicates it is still much less than what District of Columbia Public Schools would spend to operate its own school transportation system.[67] However, the city still faces transportation challenges, particularly involving school choice. Over 40 percent of D.C. students attend charter schools—one of the highest percentages in the country.[68] These schools are prohibited from restricting enrollment based on where students live. If charter schools are not located near high-frequency public transit stops (e.g., in a former neighborhood school in a residential area), then it can be difficult for WMATA to adequately meet schools' transportation needs.[69]

San Francisco United School District (SFUSD) has also reduced costs by eliminating much of its student transportation services. However, unlike D.C., which never offered widespread school bus service, SFUSD's transition to a predominantly transit-based system resulted from cost pressures. Starting in 2010, the state of California began cutting its education budget, which greatly reduced transportation funding. SFUSD responded to budget cuts

SFUSD now only transports 5 percent of its general student population, with a focus on transporting low-income students to high-performing schools.

by largely eliminating transportation services. SFUSD now only transports 5 percent of its general student population, with a focus on transporting low-income students to high-performing schools. This change has been aided by the "Free Muni for Youth" program, through which the city of San Francisco allows youth ages 5–17 from low- and moderate-income families to access the city's public transit for free.[70]

SFUSD officials report a relatively smooth transition away from providing school bus service. Other districts, however, have had greater difficulty in reducing or eliminating service. The experience was quite different a few hundred miles away in Los Angeles.

On its face, Los Angeles Unified School District's (LAUSD) school transportation looks similar to that of SFUSD. Not counting special education students—whose transportation is mandated by federal law—LAUSD transports about 28,000 students each day (as of the 2013–14 school year), which accounts for under 5 percent of its total student population. Based on data from 2009, just over half of students ages 5 to 15 in Los Angeles County rely on private vehicles to get to and from school. In comparison, about 32 percent walk to school, 8 percent use school buses, and 4 percent use public transit.[71] Most of the general education students who do receive school bus services are those attending magnet schools. The district also provides transportation for certain school integration[72] and school choice programs, as well as for "distance and hazard," meaning a student's walking route to schools includes potentially dangerous conditions like crossing freeway ramps or railroad tracks.[73] Students who do not fall into one of these categories do not receive transportation services, but qualify for discounted public transit fares from Los Angeles County Metropolitan Transportation Authority.[74]

Also like SFUSD, LAUSD's reduction in student transportation began in 2010 after state budget cuts.[75] However, in 2011, California Governor Jerry Brown announced that state funding for school transportation would be reduced by an additional $248 million. For LAUSD specifically, it was a loss of $38 million—a 50 percent reduction on top of the prior year's cut.[76]

In response, LAUSD filed a lawsuit against the state, claiming the cuts would put the district in direct violation of either a 30-year-old desegregation order or the California Constitution. To maintain the desegregation order, according to LAUSD, classroom funding would have to be diverted from its general fund. This would violate the state constitution "because further budget cuts would adversely impact the educational benefits offered to its students. Therefore, LAUSD's students would receive a disproportionately lower share of funding and educational opportunities as compared to students in school districts without those mandatory costs."[77]

Ultimately, before LAUSD's suit was adjudicated, the state's lawmakers restored the $248 million by distributing funding reductions more evenly across all school districts—$42 per student. The initial transportation cut would have amounted to a $68 cut per student for LAUSD. The restored funding was enough to cover the cost of transporting nearly 50,000 students.[78]

The contrast in the SFUSD and the LAUSD reactions to proposed reductions in bus service underscores the complexity of grappling with changes in student transportation. The relative quality and coverage of public transit options; community perceptions of the quality, safety, and convenience of different service models; underlying relationships among stakeholders in schools and the community; and tradeoffs in spending and service at the district level all factor into whether a shift in service models will be accepted or provoke backlash.

Urban districts are not the only ones facing tough choices about whether or not to provide bus service. Franklin Township, a rural district in Indiana, also faced community backlash when it attempted to eliminate bus service in 2011. The decision was the result of a combination of escalating costs and various state policies that restricted districts' ability to generate revenue.

As transportation costs increase and in the absence of new revenue sources, districts—particularly smaller districts without good public transit as an alternative—continue to grapple with tradeoffs between funding student transportation and funding other core district functions.

In 2008, Indiana implemented caps to property taxes, which reduced many districts' access to new revenue. In 2010, the state began cutting its education budget, exacerbating districts' financial difficulties.[79] On top of that, Indiana law prohibits charging parents for home-to-school transportation,[80] limiting districts' options for finding the revenue necessary for providing transportation services. After Franklin Township's voters failed to pass two referenda that would have provided additional tax revenue, the district opted to eliminate its bus service.

The resulting backlash from parents sparked a lawsuit that was ultimately decided by the Indiana Supreme Court. While the court sided with the district, Franklin Township ultimately reinstated bus service in 2013 by restructuring some of its debt.[81] As transportation costs increase and in the absence of new revenue sources, districts—particularly smaller districts without good public transit as an alternative—continue to grapple with tradeoffs between funding student transportation and funding other core district functions.

Rural Districts and Diseconomies of Scale

The factors impacting districts' transportation costs often differ by district type. For example, the major driver of costs for urban districts is the large number of students they are expected to transport to various sectors of the city. Cost drivers for rural districts, on the other hand, are more structural in nature. While their student populations are smaller,

they are also less concentrated and live further from the schools they attend. This presents a major efficiency problem: Fewer students are being transported over longer distances, which drives up the cost per student ride.

Additionally, most states require using buses for school transportation. This means that rural districts must use these large vehicles to transport students, even when the number of students being transported does not justify them, resulting in lots of empty seats and poor fuel efficiency. Further, to minimize student ride times—a major concern for both transportation administrators and parents—districts may operate more buses than the size of the student population dictates in order to serve geographically dispersed areas on the most reasonable schedule. However, some states allow other vehicles, such as passenger vans, to be used for school transportation. From a cost-efficiency perspective, using these smaller, cheaper vehicles to transport students with fewer empty seats equates to lower cost per student ride and could be particularly advantageous for rural districts. But tradeoffs in student safety must be considered (see "School Transportation and Student Safety," below).

Rural districts may also have fewer alternatives than their urban counterparts. For instance, many urban districts rely on public transportation for getting at least some students to and from school. But students in rural districts often lack access to reliable public transit. According to the Community Transportation Association of America, approximately 38 percent of rural residents live in areas without any public transit service, and another 28 percent live in areas in which the level of transit service is negligible.[82]

Sidebar 3

School Transportation and Student Safety

According to the U.S. Department of Transportation, school buses are the safest mode of transportation for getting children back and forth to school.[i] From 2003 to 2012, school transportation accidents accounted for less than one half of 1 percent of all fatal motor vehicle crashes, and in those cases, the vast majority (nearly 80 percent) of fatalities did not involve school bus occupants, but pedestrians outside the bus (8 percent) and occupants of another involved vehicle (71 percent).[ii] While school bus travel makes up 25 percent of the total vehicle miles traveled by students, injuries in school bus-related accidents account for less than 4 percent of student injuries.[iii]

The structural safety of the school bus itself is predicated on a concept called "compartmentalization," whereby buses are equipped with strong, closely spaced seats with energy-absorbing seat backs. The seat arrangement and construction creates a "protective envelope" around passengers that is not dependent on the use of a

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restraint system like a seat belt. Compartmentalization is particularly effective in school buses because they are generally heavier than the vehicles with which they collide, impart lower crash forces on their occupants, and distribute crash forces differently than passenger cars and light trucks. As a result, the National Highway Traffic Safety Administration (NHTSA) describes compartmentalization as "an excellent concept for injury mitigation." Compartmentalization requirements first became effective for newly manufactured school buses in 1977, and have remained largely unchanged.[iv]

Because of this safety-oriented design, school bus transportation produces better safety outcomes than other means of getting to school, particularly travel in personal vehicles. According to NHTSA and the American School Bus Council, students are about 70 times more likely to get to school safely if they take a school bus than if they travel by car. Students traveling by school bus accounted for less than 1 percent of student fatalities during normal school travel hours from 2005–2013. In comparison, students traveling with a teen driver accounted for 57 percent of those deaths, and 23 percent occurred while traveling with an adult driver.[v] Though roughly 2,000 children are killed in motor vehicle crashes each year, on average, only six school bus passengers die annually in school bus crashes.[vi]

The Federal Motor Vehicle Safety Standards, or FMVSS, contains all federal safety requirements for school buses, including standards for compartmentalization and other specifications.[vii] Of the 60 FMVSS requirements, 35 apply to school buses, and several were written specifically for them. The standards stipulate a number of required safety features, including rollover protection, emergency exits, joint strength, safety devices for school bus pedestrians, and mirrors.

Many state and local jurisdictions implement additional safety measures on top of federal requirements. The inclusion of cameras inside or outside the bus (or both) is a common safety innovation that allows for monitoring and documentation of student behavior on the bus and aims to increase pedestrian safety outside the bus. School transportation operators surveyed report having cameras on two-thirds of their buses. Forty percent report having them fleet-wide. Of buses outfitted with cameras, more than half (60 percent) have two or three.[viii]

While pedestrian safety devices like stop arms—stop signs that extend from the side of the bus when students are entering or exiting—are required by federal regulations, some districts also include stop-arm cameras that capture images of cars illegally passing buses. According to the School Bus Fleet survey, nearly 20 percent of fleets have stop-arm cameras on at least some of their buses.[ix] As of 2014, 11 states (Arkansas, Connecticut, Georgia, Illinois, Maryland, North Carolina, Rhode Island, South Carolina, Virginia, Washington, and West Virginia) had enacted laws allowing the use of side-arm cameras.[x]

Although seat belts are a ubiquitous safety feature in passenger cars, their use in school buses is controversial. Federal regulations require seat belts on small school buses, or those weighing 10,000 pounds or less. Because of their size and weight, these smaller buses behave more similarly to passenger cars and trucks in a crash scenario, and as a result, compartmentalization alone is insufficient to provide occupant protection.[xi]

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But currently, federal regulations do not require seat belts on school buses weighing over 10,000 pounds, which make up a large majority of school buses on the road today (see "School Bus Specifications," page 11). Research shows that using seat belts on these larger school buses only minimally improves rider safety. The National Transportation Safety Board has stated that seat belts would not prevent "most of the serious injuries and fatalities from occurring in school bus crashes,"[xii] and the National Academy of Sciences believes that the funds needed to purchase and maintain seat belts "might be better spent on other school bus safety programs and devices that could save more lives and reduce more injuries."[xiii]

As a result, NHTSA's position has historically been to allow states and districts to determine whether to require seat belts on large buses.[xiv] However, in November 2015, NHTSA announced that it has changed its view on seat belt requirements. While it stopped short of announcing new rulemaking, NHTSA administrator Dr. Mark Rosekind said, "The position of the National Highway Traffic Safety Administration is that seat belts save lives. That is true whether in a passenger car or in a big yellow bus. And saving lives is what we are about. So NHTSA's policy is that every child on every school bus should have a three-point seat belt."[xv]

The vast majority of states (44) do not require seat belts on large school buses at all. California, Florida, New Jersey, and New York require seat belts only for new school buses. Louisiana and Texas require seat belts for new buses as well, but only if funding is specifically provided. While Connecticut does not require seat belts on school buses, the state does offer a tax incentive for providing them.[xvi]

As more districts turn to public transit as a supplement to or replacement for district-provided school transportation, it is also important to consider the safety of public transit. Given the heavy media coverage of transit-related crime, as well as the widely reported uptick in overall violent crime in some of the country's major cities in 2016,[xvii] it is an area of growing concern.

However, there is little evidence showing that students face greater danger when using public transit. In fact, some studies have found that increased public transit actually reduces crime.[xviii] Additionally, a 2003 study published in the Journal of Public Transportation concluded that there was "no recognizable difference between pupil fatality rates by transit buses and school buses."[xix] Public transit is also a safer option when compared to transportation via automobiles. For example, a 2014 study published in the same journal found "transit travel has about one-tenth the traffic casualty (injury or death) rate as automobile travel, and residents of transit-oriented communities have about one-fifth the per capita crash casualty rate as in automobile-oriented communities. Transit also tends to have lower overall crime rates than automobile travel."[xx]

Additionally, according to data from 2004–2008 from the Bureau of Justice Statistics, less than 1 percent of violent victimizations[xxi] and property victimizations[xxii] occur on public transportation vehicles or in stations.[xxiii]

i National Highway Traffic Safety Administration, "Kids are Back to School; Let's Keep Them Safe," *Fast Lane*, September 4, 2013, https://www.transportation.gov/fastlane/kids-are-back-school-lets-keep-them-safe.

ii National Highway Traffic Safety Administration, "School-Transportation-Related Crashes," revised June 2014, pp. 1–4, https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/811890.

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iii Transportation Research Board, "The Relative Risks of School Travel: A National Perspective and Guidance for Local Community Risk Assessment," March 30, 2014, http://www.trb.org/Main/Blurbs/161028.aspx.

iv John Brewer and Linda B. McCray, "Child Safety Research in School Buses," National Highway Traffic Safety Administration, pp. 1–2, accessed December 2016, http://www-nrd.nhtsa.dot.gov/pdf/esv/esv19/05-0325-W.pdf.

v American Bus Council, "Fact: The School Bus is the Safest Way to Travel to and from School," accessed December 2016, http://schoolbusfacts.com/wp-content/uploads/2016/12/Safety-Benefits.pdf.

vi National Conference of State Legislatures, "School Bus Safety," June 15, 2016, http://www.ncsl.org/research/transportation/school-bus-safety.aspx.

vii National Highway Traffic Safety Administration, "Federal Motor Vehicle Safety Standards and Regulations," accessed November 2016, http://icsw.nhtsa.gov/cars/rules/import/FMVSS/.

viii Thomas McMahon, "Equipment Survey 2015," page 5, *School Bus Fleet*, September 2015, http://files.schoolbusfleet.com/stats/SBF-EquipmentSurvey-2015.pdf.

ix Ibid.

x Douglas Shinkle, "Catching Unlawful School Bus Passers with Cameras," National Conference of State Legislatures, January 2015, http://www.ncsl.org/research/transportation/catching-unlawful-school-bus-passers-with-cameras.aspx.

xi National Highway Traffic Safety Administration, "Seat Belts on School Buses—May 2006," accessed December 2016, https://one.nhtsa.gov/Vehicle-Safety/Seat-Belts/Seat-Belts-on-School-Buses-%E2%80%93%E2%80%93-May-2006.

xii Ibid.

xiii Ibid.

xiv Ryan Gray, "NHTSA Wants 3-Point Seat Belts on All Buses," *School Transportation News*, November 8, 2015, http://www.stnonline.com/news/latest-news/item/7040-nhtsa-wants-3-point-seat-belts-on-all-buses.

xv Mark R. Rosekind, prepared remarks to the National Association for Pupil Transportation, National Highway Traffic Safety Administration, November 8, 2015, https://www.nhtsa.gov/speeches-presentations/remarks-national-association-pupil-transportation.

xvi School Bus Fleet, "School Bus Seat Belt Laws," 2013, http://files.schoolbusfleet.com/stats/SBF-SeatBeltLaws-2013.pdf.

xvii Wesley Bruer, "Violent crime rising in US cities, study finds," CNN, July 26, 2016, http://www.cnn.com/2016/07/25/politics/violent-crime-report-us-cities-homicides-rapes/.

xviii Eric Jaffe, "The Myth That Mass Transit Attracts Crime Is Alive in Atlanta," CityLab, *The Atlantic*, December 11, 2014, http://www.citylab.com/crime/2014/12/the-myth-that-mass-transit-attracts-crime-persists-in-atlanta/383609/.

xix Lidia P. Kostyniuk, "Pupil Fatalities on Public Transit Buses: A Comparison with School Buses," *Journal of Public Transportation* (6), No. 3, 2003, p. 43, http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1384&context=jpt.

xx Todd Litman, "A New Transit Safety Narrative," Journal of Public Transportation (17), No. 4, 2014, p. 114, http://www.nctr.usf.edu/wp-content/uploads/2014/12/JPT17.4_Litman.pdf.

xxi Bureau of Justice Statistics, "Crime Type—Location," accessed September 2016, http://www.bjs.gov/index.cfm?ty=tp&tid=44.

xxii "Property victimizations" include household burglary, motor vehicle theft, and property theft.

xxiii Bureau of Justice Statistics, "Crime Type—Location," accessed September 2016, http://www.bjs.gov/index.cfm?ty=tp&tid=44.

School Choice and Student Transportation

Where students and families may choose a public school in another neighborhood or even another district, the question of how those students get to and from school arises.

As school districts continue to change, so too must the structure of their transportation systems. For instance, the growing presence of school choice challenges traditional school transportation models that were built around neighborhood schools. Where students and families may choose a public school in another neighborhood or even another district, the question of how those students get to and from school arises.

Charter schools represent the most common school choice model, with 42 states and the District of Columbia now allowing charter schools to operate.[83] Charter schools are public schools, but unlike most traditional district schools, enrollment in charter schools is not limited to a geographically defined attendance zone. There are now over 6,000 charter schools enrolling nearly 3 million students nationwide.[84] While this is a small proportion of the K–12 population as a whole, charter school enrollment represents a significant share of public school enrollment in some communities. For example, in the District of Columbia, over 40 percent of students attend a charter school.[85] As of the 2013–14 school year, in 29 districts across 14 states, at least one in four students attended a charter school. And these districts include some of the most populous in the country.[86]

In addition to charter schools, some states and districts offer "open enrollment"—either intradistrict or interdistrict—in district schools. Intradistrict open enrollment policies typically allow students to choose any school within the boundaries of the school district in which the student resides, while interdistrict policies allow students to transfer to schools outside of their resident district. Currently, 46 states and the District of Columbia have some kind of open enrollment policy.[87]

Beyond public school choice options, some states also offer private school choice options, further broadening the range of education arrangements beyond the traditional neighborhood school. Currently, 13 states and the District of Columbia operate voucher programs, sometimes called opportunity scholarships, which are state-funded vouchers that help students attend private schools. Of these states, 10 have vouchers that apply specifically to students with disabilities—meaning that providing school transportation may be required under federal law.[88]

A handful of states have programs for education savings accounts (ESA), which place state funding designated for a student's education into a personal account. Parents can direct these funds to the schools, courses, programs, and services of their choice. Arizona created the first ESA program in 2011. Since then, four additional states have enacted ESA programs—Florida, Mississippi, Nevada, and Tennessee. In Nevada, ESAs are available to all public school students in the state.[89] While school districts are not necessarily providing school transportation under these various scenarios, the growth in school choice options—both public and private—is changing the environment in which school transportation must be considered. The most common school transportation model currently in practice, in which service is oriented around the traditional school district with an attendance zone, was conceived at a time when neighborhood schools were often the only option.

Whether or not transportation is provided for students attending public charter schools and private schools varies by state and by district.

Whether or not transportation is provided for students attending public charter schools and private schools varies by state and by district (Figure 3). Some districts do not provide any transportation to these schools. However, some states require that school transportation include charter schools and sometimes even private schools. In these cases, districts provide transportation to all eligible students within their boundaries. In other cases, private and charter schools can access district transportation through individual agreements, sometimes involving a fee-for-service arrangement with the district.[90]

The handful of states requiring transportation services for charter school students includes Connecticut, Delaware, Florida, Idaho, Iowa, Louisiana, and Ohio. Pennsylvania state law requires transportation services only for charter school students, leaving the provision of transportation for district school students up to the discretion of the district. Public provision of private school transportation is rarer, but select states, including Delaware, Iowa, Illinois, Louisiana, and Ohio, require it. It is important to note that a lack of state requirements for cross-sector student transportation does not necessarily preclude individual districts from coordinating for service across sectors. For example, New York City provides transportation service to district, charter, and private schools. And Denver Public Schools provides transportation to some charter schools within its boundaries (see "Rethinking Transportation for School Choice in Denver," page 33).

Student transportation in the context of school choice is a critical issue. If transporting a student across town to school presents a burden to a family, then that family doesn't actually have access to schools of choice (whether district-run, charter, or private). This

transportation limitation undercuts the purpose and intent of school choice policies and raises equity questions related to which families truly have access to the full range of education options.

Figure 3 State Requirements for Charter and Private School Transportation

	Charter Schools	Private Schools
Alabama	N	N
Alaska	N	N
Arizona	N	N
Arkansas	N	N
California	N	N
Colorado	N	N
Connecticut	Y	Some [i]
Delaware	Y	Y
District of Columbia	N	N
Florida	Y	N
Georgia	N	N
Hawaii	N	N
Idaho	Y	N
Illinois	Y	Y
Indiana	N	N
Iowa	Y	Y
Kansas	Some [ii]	Y
Kentucky	No charter schools	N
Louisiana	Y	Y
Maine	N	N
Maryland	N	N
Massachusetts	Y	Y
Michigan	N	Y
Minnesota	Y	Y
Mississippi	N	N
Missouri	N	N
Montana	No charter schools	N
Nebraska	No charter schools	Y
Nevada	N	N
New Hampshire	Y	Y
New Jersey		Y
New Mexico	Y	N
New York	Y	Y
North Carolina	N	N
North Dakota	No charter schools	N
Ohio	Y, if less than 30 minutes	Y, if less than 30 minutes
Oklahoma	N	N
Oregon	N	Y
Pennsylvania	Y	N
Rhode Island	Y	Y (but not for-profit)
South Carolina	N	N
South Dakota	No charter schools	N
Tennessee	N	N
Texas	N	N
Utah	N	N
Vermont	N	N
Virginia	N	N
Washington	No charter schools	N
West Virginia	No charter schools	N
Wisconsin	Y	Y
Wyoming	N	N

Source: Data collected by the authors from various state web sites and third party resources regarding state school transportation requirements.

i If a majority of students attending a private school are residents of Connecticut, the municipality or school district must provide the same transportation services provided to K–12 students attending public schools. Transportation services for pupils attending private schools outside of their school district are optional.

ii School districts are required to provide transportation for charter school students who qualify for the free lunch program and live 2.5 miles or more from the school.

Sidebar 4

Rethinking Transportation for a School Choice System in Denver

For several years, the city of Denver and Denver Public Schools (DPS) have embraced both charter schools and broader school choice options within their education system. As of 2012–13, 39 charter schools served nearly 12,000 students in Denver, or about 14 percent of the city's public school population.[i]

At the same time, Denver is one of the fastest growing cities in the country,[ii] and that growth has put pressure on transportation budgets for both the school district and city at large.

The district's embrace of school choice, paired with the city's growing transportation needs, has affected the way in which DPS, and Denver more broadly, deliver transportation services to students. According to Steve Clark, DPS' transportation operations manager, "a traditional system of delivery only works in a traditional system."[iii] And Denver's school transportation is anything but traditional, as it blends different modalities to get students to and from school.

Unlike some districts, DPS is not required to provide transportation service to its growing charter sector; however, charter schools can use district school transportation for a fee. Charter schools can also opt to provide transportation privately, or not at all.[iv]

To make school choice more accessible and provide all students and schools with greater transportation flexibility, DPS also operates a shuttle bus service known as the "Success Express." The Success Express consists of a fleet of DPS buses that circulate primarily through Denver's Northeast neighborhoods, which have less access to other means of transit. The shuttles run every 15 minutes from 6:30 to 9:30 a.m. and 2:30 to 6:30 p.m. on a continuous loop with defined stops. Students can get on and off as needed. Some Success Express routes run on a large loop around the city, whereas others are smaller, regional loops that make it easier for students to travel shorter distances.[v]

In operation since 2011, the Success Express has shown early signs of improving DPS students' school transportation options. According to a 2014 report from the University of Colorado Denver, it has "dramatically increased student access to school transportation in these growing Denver regions," and "access to the shuttle bus service has afforded improved flexibility to families." Additionally, early analysis suggests that it has helped contribute to improvements in attendance and reduction in truancy rates for the schools it services.[vi]

Beyond district-provided busing, Denver has other options that help make transportation more accessible and equitable across sectors. The city of Denver's Regional Transportation District (RTD) provides 50 percent discounted fares for students ages six to 19.[vii] High school students who attend neighborhood or magnet schools—but not schools of choice—and are eligible for transportation services can also opt to receive a free RTD pass from DPS rather than using school buses. This program is designed to provide high schools with start-time flexibility and saves the district money on transportation costs. [viii]

Additionally, the Denver Regional Council of Governments (DRCOG) provides schools and families with access to a "SchoolPool" program. SchoolPool matches families at a school or nearby schools based on the proximity of household residences. After being matched, families can organize carpools, biking or walking groups, or group travel via public

Continued on next page

transit in order to get to school. Nearly 70 schools across the greater Denver area actively participate in the SchoolPool program. In the 2013–14 school year, SchoolPool provided over 15,000 family matches.[ix] (For more information on councils of governments, see "What are MPOs and RCs?" page 15.)

Despite an "all of the above" approach to school transportation, Denver still faces challenges similar to other districts. For example, DPS has a fleet of over 300 buses, but has 70 buses sitting idle due to a lack of drivers. The district has had to contract out some of its bus service to a private provider because of its driver shortage. Like other states and districts, DPS is losing drivers to similar, higher-paying jobs like driving for trucking companies and public transit.[x]

DPS is also faced with a high number of "deadhead" or "unloaded" miles, meaning the miles driven by a school bus without students on board—to and from the bus terminal, and between schools after drop-offs. Currently, this constitutes over 50 percent of all miles driven by DPS buses. According to Steve Clark, this problem could be addressed if the district centrally controlled schools' bell times in order to maximize efficiency; however, Denver schools' bell times are currently determined through school-district negotiation.[xi]

Finally, DPS is attempting to improve its use of data in making system choices to best serve students and schools. The district is attempting to use "+Passes," radio-frequency identification (RFID) cards that students "tap" when they enter and exit a bus, in order to track ridership on a daily basis. However, there is currently no consequence for not using these passes. Students who show up to the bus without a +Pass are still able to ride the bus, so many do not regularly use them. As a result, DPS still tracks ridership via monthly headcounts, limiting its ability to make decisions well informed by up-to-date data.[xii]

DPS will need to address ongoing challenges if it wants to continue improving its school transportation system, both for traditional and charter schools.

i The Learning Landscape, "Denver, Colorado: Successful District-Charter Collaboration," Bellwether Education Partners, accessed August 2016, http://www.thelearninglandscape.org/denver-colorado-successful-district-charter-collaboration/.

ii Metro Denver Economic Development Corporation, "Demographics," accessed August 2016, http://www.metrodenver.org/do-business/demographics/.

iii Steve Clark, transportation operations manager, Denver Public Schools, phone interview, April 21, 2016.

iv Ibid.

v Denver Public Schools Department of Transportation, "Success Express," accessed August 2016, http://transportation.dpsk12.org/information-for-schools-and-departments/success-express-near-northeast/.

vi Todd Ely and Paul Teske, "Success Express: Transportation Innovation in Denver Public Schools," Center for Education Policy Analysis, School of Public Affairs, University of Colorado Denver, February 2014, p. 1, http://www.crpe.org/sites/default/files/MHC_Success_Express_2014.pdf.

vii Regional Transportation District—Denver, "Fares," accessed August 2016, http://www.rtd-denver.com/Fares.shtml.

viii Denver Public Schools Department of Transportation, "DPS-RTD Transportation Pass Eligibility Facts," June 23, 2014, http://transportation.dpsk12.org/wp-content/uploads/2014/06/RTD-Transportation-Eligibility-Facts.pdf.

ix Todd Ely and Paul Teske, "School Transportation in Colorado: Implications for Expanded Learning Time," Center for Education Policy Analysis, School of Public Affairs, University of Colorado Denver, May 2014, p. 35, http://milehighconnects.org/wp-content/uploads/2014/12/Transportation-Extended-Learning-Time-Report-2014-sm.pdf.

x Steve Clark, transportation operations manager, Denver Public Schools, phone interview, April 21, 2016.

xi Ibid.

xii Ibid.

Data Deficit in School Transportation

Because school bus fleets are largely not up to speed with the technology of other modes of mass transit, school districts are not equipped with information that could help maximize efficiency.

One of the largest issues affecting the operational efficiency of student transportation is what can best be described as a "data deficit." Because school bus fleets are largely not up to speed with the technology of other modes of mass transit, school districts are not equipped with information that could help maximize efficiency. Most transit systems routinely account for basic information like the cost per ride, percent of seat capacity utilized, length of ride times, and rate of on-time departures and arrivals, but many school transportation systems fail to collect these data consistently, if at all.

This lack of data limits districts' ability to improve efficiency. According to Doug Martin, vice president of Transportation Sector Consultants (TSC), "You can't manage what you don't measure, so if you want to increase ridership and make buses fully loaded, then you should take attendance on every route every day. If you want to limit miles per gallon, you have to measure idle time. If you want more efficient routing, you have to use GPS and routing software."

One of the most basic elements of this data deficit is a lack of GPS technology on school buses. Because of the ubiquity of GPS in cellphones and other devices, most people take it for granted; however, according to School Bus Fleet's 2015 equipment survey,[91] only a third of school transportation operations use GPS to track their buses. As Martin notes, "Parents and students have adopted tech and understand tech to a much better degree than the busing industry. Why can I easily call an Uber and see where it is, but I can't see where my [school] bus is?"

Survey data indicates that parents favor using GPS to track school buses. For example, a 2014 survey conducted by Fleetmatics Group PLC found that 85 percent of parents agree that "monitoring school buses via GPS tracking would make for greater overall safety and more timely bus service." Additionally, 77 percent were interested in the "ability to monitor child's school bus's exact location and status."[92]

Another challenge for improving busing systems is a lack of ridership data. Ideally, having information on ridership would allow transportation administrators to plan bus routes in a way that maximizes the number of students transported per trip. However, many districts base their ridership figures on eligibility, meaning that they account for all students who qualify for school-provided transportation, rather than the number of students who actually use the service. There are also many districts that only count ridership monthly or a handful of times per year. This leads to inaccurate or nonexistent data, making it difficult or impossible to plan or adjust fleets or routes as needed to maximize efficiency.

Many districts base their ridership figures on eligibility, meaning that they account for all students who qualify for school-provided transportation, rather than the number of students who actually use the service.

One of the most effective technologies for tracking ridership uses radio-frequency identification, or RFID. This technology is commonly used in other industries. Some airlines now use it to accurately track checked bags. The manufacturing and shipping industries use it to keep tabs on merchandise. One of the most well-known examples of RFID are "E-ZPasses," which allow drivers to pass through toll collections without stopping.

Similarly, students can carry RFID cards or badges that log when and where they enter or exit school buses. One example is the ZPass, a product provided by Zonar Systems. It is a badge attached to students' backpacks that signals a scanner on the school bus when students enter or exit. Cincinnati Public Schools (CPS) has used ZPasses to track ridership since 2013. The ZPass system allows CPS to learn who is riding the bus to and from school, verify the number of students at each stop, and track ride times for each student.

This knowledge is now helping the district save money by streamlining bus stops. According to John Davis, director of pupil transportation at CPS, "If you can combine a bus stop or two and keep them all in short enough walking distance, you can save a few minutes here and there, which translates over time into dollars."[93]

He also noted that the ZPass is an effective tool for communicating with parents, who can opt to receive texts about the time and location that their children get on and off their bus.

In Washington, D.C., where all school transportation is provided via public transit, the city is also using RFID technology to better understand how their students get to and from school. Riders of public transit tap their "SmarTrip" cards to enter and exit buses and the subway system. Students, who can ride public transit for free during certain times of the day, have special student cards, so the city receives data on student transit from the Washington Metropolitan Area Transit Authority (WMATA). Each week WMATA sends

information to the Office of the Deputy Mayor for Education about how many students have enrolled in the free transit program, have tapped in and out of particular stops, and have negative fare balances.

Even when districts collect robust data, they are not necessarily maximizing the value of the available data. For example, all of the buses used by Atlanta Public Schools (APS) have GPS, and the district has launched a mobile application to help parents track bus locations. But, according to APS Transportation Director John Franklin, the district still "has mountains of data that's never processed." To address this issue, APS hired a quality assurance specialist responsible for processing troves of collected data in order to track events such as when drivers are beginning their routes, when buses are stopping, when bus doors open (to track timing of stops), whether arrivals are on time or late, and when maintenance needs arise.[94]

Until schools and districts implement reliable and consistent systems for data collection, identifying opportunities to improve operations and addressing broader efficiency issues will remain difficult.

School Transportation and Environmental Impact

In 2014, over 37,000 school buses were sold in the United States and Canada. However, only about 2,200 were powered by an alternative fuel, accounting for roughly 6 percent of sales. While that is a significant increase from 2012, when only 2.5 percent of newly sold buses were powered by an alternative fuel, it's a small share compared to the larger transit industry.[95] More than 35 percent of public transit buses in the United States use alternative fuels or hybrid technology.[96]

Alternatively fueled buses—mostly run on propane and compressed natural gas (CNG), but also electric—cost more than the typical diesel bus, but the additional upfront cost can be offset by savings from reduced fuel costs and maintenance.[97]

Both propane and CNG fuels cost less than diesel, and their prices remain relatively stable compared to diesel, which varies with the fluctuation of crude oil prices. There are also a variety of savings from maintenance costs. For example, buses fueled by propane and CNG reduce the cost of preventive maintenance and use less oil and cheaper filters, making oil changes cheaper. Unlike their diesel counterparts, these buses do not require additional treatment—like particulate filters or additives—to meet federal vehicle emissions standards, potentially saving thousands of dollars in maintenance each year. Additionally, propane- and CNG-fueled buses start more easily in cold weather compared to diesel buses, and so do not need to be heated overnight in cold climates, saving on facilities costs.[98]

Relative to the most recent diesel bus models (2010 and newer), propane and CNG buses do not offer significant air quality benefits. However, when these buses are used to replace older diesel buses, they can reduce air pollutant emissions considerably.[99]

A number of case studies have provided evidence of the potential cost savings and environmental benefits of switching to propane-fueled buses. For example, a 2014 report from the U.S. Department of Energy's Argonne National Laboratory tracked 110 propane buses in five school districts, all of which replaced diesel buses. All five districts experienced savings, with some saving nearly 50 percent on a cost-per-mile basis for fuel and maintenance. That resulted in total savings of between $400 and $3,000 per propane bus per year, with the incremental costs of the vehicles and related infrastructure being offset over a period of three to eight years. In total, the buses reduced the use of petroleum by 212,000 diesel gallon equivalents per year, and also eliminated 770 tons of greenhouse gases annually.[100]

Other case studies highlighted by the Department of Energy include the Mesa Unified School District in Arizona, as well as the Eastern Carver County School District in Minnesota. In 2011, rather than invest in diesel buses, Mesa USD purchased 90 propane buses. As a result, the district has saved 38 cents per mile with anticipated savings of $3.2 million over five years. In Minnesota, Eastern Carver has included 32 propane buses in its fleet. For the 2013–14 school year, the district saved roughly $170,000 by using these buses and hopes to operate entirely on propane by 2017.[101]

Research also shows that alternatively fueled school buses and other clean air technology can positively impact students' health. According to a 2015 study published in the American Journal of Respiratory and Critical Care Medicine, "When children ride buses with clean air technologies and/or fuels, they experience lower exposures to air pollution, less pulmonary inflammation, more rapid lung growth over time, and reduced absenteeism than when they are on buses without these technologies and fuels. These improvements were often strongest among children with asthma."[102]

While transitioning to propane- and CNG-fueled buses can generate cost savings for districts over the life of a bus, shorter-term cost barriers do exist.

While transitioning to propane- and CNG-fueled buses can generate cost savings for districts over the life of a bus, shorter-term cost barriers do exist. These buses are more expensive than their diesel counterparts. On average, propane school buses cost about 5 percent more than diesel, ranging in cost from roughly $80,000 to just over $100,000.[103] CNG buses are more expensive as well by about 25 percent, costing approximately $150,000.[104]

Using these types of buses may also require infrastructure expenditures, primarily fueling stations. Districts can use public or shared fueling stations, or opt to install their own dedicated, onsite stations, which is more costly. For example, case studies from the Department of Energy estimate that installing a propane fueling station costs between $55,000 and $250,000, depending on the station's size and equipment.[105] Typically, districts' technicians and maintenance staff will need additional training to work on propane- and CNG-fueled buses.[106] The costs of training vary depending on the size and existing skill level of the staff.

However, suppliers and manufacturers regularly provide assistance to lower these up-front costs for transitioning to alternative fuels. Depending on fuel use and contract length, an alternative fuel supplier may pay some or all of the costs of installing onsite fuel stations and related equipment,[107] [108] and school bus or engine manufacturers often offer specific training for maintenance staff.[109]

While electric school buses are less common than propane- and CNG-fueled options, they offer greater environmental and cost-saving benefits, and will likely become more popular in district fleets in the future.[110]

Electric school buses were first deployed in the United States in 2014,[111] and have only been commercially available since 2015.[112] While these buses are primarily the smaller, Type A style, Lion Bus, based in Canada, is the first manufacturer in North America to commercialize a fully electric Type C school bus.[113] (For more information on bus types, see "School Bus Specifications," page 11.)

Most electric buses have been used in California districts, but the Massachusetts Department of Energy Resources is piloting their use in its state. The Vermont Energy Investment Corporation, a nonprofit environmental and energy group, is also conducting a feasibility assessment for operating electric school buses in Vermont.[114]

The most enticing benefit of electric school buses is that they are zero-emission vehicles, meaning they do not release harmful emissions like diesel buses and even propane and CNG buses.

The most enticing benefit of electric school buses is that they are zero-emission[115] vehicles, meaning they do not release harmful emissions like diesel buses and even propane and CNG buses. However, the emissions-reduction benefit of electric vehicles is tempered by the emissions released in the production of the electricity used to power them. That said, as energy production generally becomes cleaner over time, the net reduction in emissions tied to transitioning to electric vehicles will continue to improve.

Electricity is also cheaper and has more stable prices than any other fuel, and electric school buses require less maintenance than those powered by diesel, propane, and CNG. Additionally, when using vehicle-to-grid technology—which allows vehicles to communicate and interact with the overall power grid, rather than just draw a charge from it—these vehicles can also become "prosumers," meaning they return energy to the grid. The energy stored in the buses' batteries can be tapped by using a bidirectional charger, which releases stress on the grid and can lower a facility's electricity bill.[116]

These benefits can translate into savings for districts. According to Jim Reynolds, CEO of Adomani, a company focused on zero-emission vehicle solutions, "If you're traveling 100 miles a day and using the bus eight or nine months out of the year, you're probably going to save in the neighborhood of $22,000 just in fuel costs over diesel."[117]

Researchers from the University of Delaware have also shown that using an electric school bus instead of a diesel bus could save a district $6,000 per seat—or roughly $230,000 per bus—over a 14-year lifespan, with the initial investment being recovered after five years.[118]

Additionally, case studies have shown the benefits of hybrid diesel-electric school buses. For example, the state of Kentucky replaced 156 diesel buses in 35 districts with hybrid alternatives. The Department of Energy and the Kentucky Department of Education jointly funded the project, providing roughly $28 million to cover the incremental cost of deploying the buses. The buses were purchased from 2009 to 2011, and data was collected from 2010 to 2013.[119] The resulting case study from the Kentucky Clean Fuels Coalition showed that these hybrid buses averaged 35 percent greater fuel efficiency,[120] saving nearly 200,000 gallons of fuel. This generated savings for districts totaling over $700,000, with continued savings expected over the remaining life span of the buses.[121]

However, there are high upfront costs associated with transitioning to electric buses, as they cost even more relative to diesel buses than propane- and CNG-fueled buses (see "Could Social Impact Bonds Finance Alternatively Fueled School Buses?" below). An electric school bus typically costs $100,000 to $120,000 more than its diesel counterpart, and districts may also need to install charging stations. In the past, one of the larger concerns with electric vehicles was the relatively short distances they could travel; however, current battery configurations for electric buses now offer a range of 60 to 80 miles, with further improvements expected in the near future.[122]

Sidebar 5

Could Social Impact Bonds Finance Alternatively Fueled School Buses?

Alternatively fueled buses are cheaper to fuel, operate, and maintain than diesel buses. And when these buses replace older diesel models (those manufactured before 2010), they can reduce air pollutant emissions considerably. However, they make up only a small percentage of bus sales. Of all buses sold in the U.S. and Canada in 2014, only 6 percent were alternatively fueled. In 2012, that figure was less than 3 percent.

Why this disparity? One main reason is the high upfront cost of replacing buses. Propane buses cost about 5 percent more than their diesel counterparts, and CNG buses cost roughly 25 percent more. For school districts with constrained budgets and limited capital, this front-end investment can be a heavy lift. (For more information on the costs and impact of alternatively fueled school buses, see Section: "School Transportation and Environmental Impact," page 38.)

Social Impact Bonds (SIBs), also known as Pay for Success financing, provide a potential tool for assisting districts with these capital investments. SIBs, first implemented in the United Kingdom in 2010, bring together governments, nonprofit organizations, and private investors with the aim of tackling costly social issues. SIBs can be structured in various ways, but generally private investors lend money to a social service provider. In turn, the service provider

Continued on next page

uses that funding to operate a program designed to generate long-term cost savings for the government. Private investors receive a share of the longer-term savings as repayment with interest. The terms of repayment are based on an independent evaluation of the program's results. If the program fails to generate savings, the investors—and not the government—absorb the loss. This structure privatizes the risk of launching new social programs. It also generates capital for service providers that they could not otherwise easily access. As of 2016, nine SIBs operate in the United States, with 50 more in development. In total, U.S. SIBs are backed by over $90 million in private investment.[i]

One example of an emerging SIB involves the nonprofit Green & Healthy Homes Initiative (GHHI). GHHI inspects homes in low-income areas for common health hazards, provides remediation services, and educates residents on health and safety. Their work has been shown to reduce the frequency of asthma episodes, emergency room visits, and even hospitalization. Because many of the residents in these areas are Medicaid recipients, reducing these health problems generates cost savings to federal and state government. Official tallies estimate savings of five to 14 times the initial investment. However, GHHI's program costs roughly $2,500 per home, which is prohibitively high for many local governments.[ii]

As a result, GHHI is partnering with the Calvert Foundation, Johns Hopkins' Medicaid Managed Care Organization (MCO), and the Hilltop Institute at the University of Maryland Baltimore County to develop a SIB contract. The Calvert Foundation has agreed to provide upfront investment for GHHI's work, and the Hilltop Institute will evaluate the savings. If GHHI's efforts generate Medicaid savings, then Johns Hopkins' MCO will repay Calvert accordingly.[iii]

While SIBs can potentially help launch programs that may otherwise struggle to secure public funding, they also face criticism. For example, SIBs may limit the savings that governments could reap from traditional means of public investment. If governments were to fund cost-saving programs fully on their own, through taxes and government bonds, then they would benefit from all of the savings. Instead, when they rely on SIBs, private investors reap some of those savings, so ultimately governments save less. This is the other side of the equation when privatizing potential risk—governments also privatize some of the reward. And like all speculative investment instruments, SIB arrangements are not without risk for investors. As a result, not all programs lend themselves to this type of financing. For example, programs whose savings potential is relatively untested or for which benefits accrue over a very distant time horizon may not successfully attract private investors.

Despite criticism, SIBs offer an alternative financing mechanism that could spur investment in the upfront costs of replacing diesel school buses with more environmentally friendly, alternatively fueled options. Like other profit-driven investments, SIBs work best when the terms of success are clearly defined, which is why they may be well suited for financing school bus replacement. Studies have identified measurable cost savings associated with switching to alternatively fueled buses. This evidence provides investors with a clear understanding of the potential returns on their investment, creating a potential win-win scenario for investors, government, and the environment.

Continued on next page

Sidebar 5 *continued*

State governments could secure investment from private funding sources, like investment banks, corporations, wealthy individuals, or philanthropic organizations, to help districts afford the incremental cost increase of purchasing alternatively fueled buses. The investment agreement would set cost savings goals over the life of a newly purchased bus, which typically accrue over eight to 15 years.[iv] And an independent evaluator would analyze the savings generated by the new buses in order to validate whether these goals have been met.

As long as upgrading districts' fleets meets the minimum savings goals stipulated in the investment agreement, private investors recoup their investment. Investors and state governments then share any additional savings. In contrast, if the new buses fail to generate the necessary savings, the private investors would absorb the losses. Such a program could spur the replacement of old buses with more fuel-efficient models by lowering capital costs for districts, provide funders with potential returns on their investment, and benefit the environment.

i Emily Liner, "Social Impact Bonds: A New Model for Investing in Social Services," Third Way, September 8, 2016, http://www.thirdway.org/report/social-impact-bonds-a-new-model-for-investing-in-social-services.

ii Ibid.

iii Ibid.

iv National Association of State Directors of Pupil Transportation Services, "School Bus Replacement Considerations," January 2002, p. 4, http://www.nasdpts.org/Documents/Paper-BusReplacement.pdf.

Many public fueling and charging stations for diesel alternatives already exist. According to the Department of Energy, as of September 2016, there are currently over 40,000 public alternative fuel stations in the United States, including stations for biodiesel, CNG, electric, ethanol, hydrogen, and propane. Of those, more than 14,000 are electric stations, more than 3,000 are propane stations, and nearly 1,000 are CNG stations. There are currently electric and propane stations in all 50 states, and CNG stations in 45 states. All three types of stations are primarily clustered in the eastern half of the United States, the Southwest, and the West Coast.[123]

Additionally, a variety of incentive programs exist at the state and federal level to help districts with upgrading their fleets, such as grants, loans, rebates, and tax exemptions. For example, in 2015, the Environmental Protection Agency (EPA) awarded more than $7 million in rebates, ranging from $15,000 to $25,000, to help replace or retrofit 400 older diesel school buses in 85 fleets across 35 states.[124] This is the third installment of the rebate program, funded by the Diesel Emissions Reduction Act (DERA); the EPA awarded $3 million in 2014 and $2 million in 2012.[125] The next iteration of DERA grants, for which proposals

were requested in the spring of 2016, will further shift the program's focus to replacing diesel-powered vehicles with those powered by electricity, covering a higher share of such replacements and retrofits than other alternatively fueled and clean diesel buses.[126]

Additionally, since 2009, roughly $300 million in funding from the American Recovery and Reinvestment Act supported 25 projects under the U.S. Department of Energy's Clean Cities program. These projects have helped establish more than 500 alternative fueling stations and put more than 9,000 cleaner vehicles on the road. Some of these investments funded the purchase of alternatively fueled school buses in multiple states, primarily Kentucky and Texas, as well as other improvements like idle-reduction equipment.[127]

While state-level programs vary widely, all 50 states and the District of Columbia provide at least some sort of incentive for using alternative fuels, and many of these programs are explicitly for school buses.

While state-level programs vary widely, all 50 states and the District of Columbia provide at least some sort of incentive for using alternative fuels, and many of these programs are explicitly for school buses.[128] For example, California's Lower-Emission School Bus Program provides grant funding for replacing older school buses and purchasing air pollution control equipment for buses already in use.[129] The Ohio Environmental Protection Agency administers the Retrofits Grant Program, which offers grants to school districts for retrofitting school buses operating on diesel fuel.[130] Mississippi's Revolving Loan Program provides zero-interest loans for public school districts to cover the incremental cost of purchasing alternative fuel school buses, converting in-use school buses to use alternative fuel systems, purchasing alternative fuel equipment, and installing fueling stations.[131] And in Texas, school districts and charter schools may receive grants through the Texas Commission on Environmental Quality to pay the incremental costs of installing clean diesel technology like oxidation catalysts, particulate filters, and other emission-reducing equipment.[132]

The federal government's settlement with Volkswagen in the wake of the company's violations of air quality control standards also provides opportunities to invest in alternative fuels technology. A portion of the funds awarded to states in the settlement will be dedicated to the replacement of large vehicles, and school buses are an eligible vehicle type. Though creating more environmentally responsible school transportation systems isn't the central goal for those funds, they could be part of the broader strategy for deploying such funds (see "Volkswagen Settlement Could Aid Bus Replacement," page 45).

Sidebar 6

Volkswagen Settlement Could Aid Bus Replacement

In 2015, the U.S. Environmental Protection Agency (EPA) announced that Volkswagen had installed software on hundreds of thousands of vehicles that enabled them to cheat on emissions tests. The software reduced nitrogen oxide emissions during diesel emission testing, but allowed higher emissions and improved engine performance during normal driving.[i]

The company admitted to outfitting over 11 million diesel vehicles worldwide, and nearly 600,000 in the United States, with the fraudulent software, leading to massive recalls in the U.S., Germany, and more than two dozen other countries. Volkswagen's CEO and top U.S. executive have both resigned, and one engineer has pleaded guilty of conspiring to defraud the government. Both the U.S. Department of Justice (DOJ) and the Federal Trade Commission have sued the company for violations of the Clean Air Act and false advertising claims.[ii]

While the DOJ's investigation and many more lawsuits are still ongoing, Volkswagen has so far agreed to settlements that could total over $15 billion.[iii] Of that, $2.7 billion will be used to create a mitigation trust that will fund projects designed to reduce harmful emissions from diesel vehicles. This funding could be used to replace or repower older diesel vehicles, including school buses, transit buses, large trucks, and freight trains. Both states and school transportation contractors are among those eligible to apply for funding.[iv]

An additional $2 billion will be directed towards technology investments for zero emission vehicles (ZEVs). These investments, which will be implemented over the next 10 years, may include spending related to ZEV infrastructure, access, and education.[v]

While the exact details of the mitigation trust and ZEV investments have not yet been determined, a sizable portion of this funding could go towards upgrading fleets to cleaner diesel and alternatively fueled buses.

i Associated Press, "One Year Later: Timeline of Volkswagen Diesel Emission Scandal," *The Chicago Tribune*, September 21, 2016, http://www.chicagotribune.com/classified/automotive/ct-timeline-volkswagen-diesel-emission-scandal-20160921-story.html.

ii Ibid.

iii Ibid.

iv Thomas McMahon, "Funds from VW Settlements Could Be Used for School Bus Replacement," School Bus Fleet, July 1, 2016, http://www.schoolbusfleet.com/news/714164/funds-from-vw-settlements-could-be-used-for-school-bus-replacement.

v U.S. Environmental Protection Agency, "Volkswagen Clean Air Act Partial Settlement," accessed September 2016, https://www.epa.gov/enforcement/volkswagen-clean-air-act-partial-settlement.

Recommendations

What drives improvement in one district or one type of district won't necessarily drive improvement in another. And school districts must balance operational efficiency and cost pressures with the needs of students and schools for safe and reliable transportation.

Even in the face of incomplete data, the image emerging of the state of school transportation service is grim. School districts struggle to provide efficient service in the face of escalating costs and increasingly complex education systems where more and more students attend schools outside their neighborhoods. Federal and state regulations aimed at ensuring student safety and protecting the educational rights of special student populations limit districts' ability to improve efficiency, and stagnant state funding streams to support transportation services force districts either to forego system and equipment upgrades or to dip into funds intended for other purposes. External factors, such as nearly ubiquitous shortages of qualified bus drivers and volatility in the fuel market, further complicate districts' ability to provide efficient service and control costs. And districts have largely failed to adopt even basic technologies that could improve data collection and drive improvements in operational and cost efficiency, much less major overhauls such as replacing diesel with alternative fuels.

These significant challenges cause inefficient service, drive high costs that divert resources from schools' core instructional mission, complicate the implementation of policies around school choice, and perpetuate negative environmental impact. Solutions to these challenges aren't simple, and they aren't generalizable. What drives improvement in one district or one type of district won't necessarily drive improvement in another. And school districts must balance operational efficiency and cost pressures with the needs of students and schools for safe and reliable transportation. That said, opportunities for improvement to current structures exist, and there is potential in new ways of conceptualizing how student transportation is provided in the future.

"Inside the Box" Recommendations

Assuming that the fundamental structure of school transportation is unlikely to change in the near future, several strategies could improve the efficiency and function of a system still predicated on school district-led transportation services.

Data and Technology

First and foremost, school districts need more information about their own transportation systems.

First and foremost, school districts need more information about their own transportation systems, and states should invest in tools and technology that enable districts to collect, analyze, and use this data to improve operational efficiency as well as to provide a higher level of customer service to families.

GPS technology, almost universal in passenger vehicles and cellphones, should be mandatory on all school buses. GPS would enable managers to track bus locations, quantify "deadhead" miles,[133] and analyze routes for efficiency.

Tracking ridership in real time is almost unheard of in school transportation, but ridership data is essential for planning efficient routing. Equipping buses and students with RFID or similar technology to track bus entrances and exits would enable districts to better understand how their transportation systems are actually being used, as opposed to planning entirely based on eligibility for service.

These same technologies can be integrated with applications that enable parents to check to see if the bus is on time and to know when their children are en route to and from school.

Funding Incentives

District transportation budgets suffer from both cost-ineffective operations and volatility. States could incentivize cost effectiveness by providing additional funding for districts that meet efficiency targets. Florida provides an example in its state funding formula for school transportation, which includes an adjustment based on average bus occupancy. Average cost per rider could also serve as a benchmark. In order not to disadvantage rural districts in this calculation, districts could be evaluated based on their performance against benchmarks relative to matched peer districts in the state.

In addition to promoting efficiency, states should decouple funding for operations versus capital expenditures. Lumping all transportation expenditures into a single pot of funding creates incentives for districts to delay capital investments when operational costs, such as fuel costs or driver wages, increase. The results can range from a failure to invest in improvements, such as data systems or lower-emission buses with higher short-term purchase prices that might yield long-term cost benefits, to a more serious failure to maintain a safe and reliable fleet of vehicles.

States should also explore alternative financing options, which could be SIBs, dedicating a portion of state settlements in the Volkswagen case, or something else, for funding innovative capital investments such as transitions to alternative fuels.

Design Flexibility

Federal and state regulations should be flexible to allow local systems to design solutions while maintaining necessary protections for student safety and educational opportunity.

Federal and state regulations should be flexible to allow local systems to design solutions while maintaining necessary protections for student safety and educational opportunity. Many districts could reap significant efficiency gains if they could transport students in vans or smaller buses. In particular, rural districts that transport small numbers of students over large geographic areas could potentially improve service by running a larger number of smaller vehicles—reducing ride times and possibly saving money by using more fuel-efficient vehicles. And larger districts could deploy vehicles specifically suited for special transportation needs. For instance, a district needing to transport one or two homeless students across the district for school could use a van instead of a full-sized school bus. Because school buses are significantly safer than smaller vehicles, allowing for more flexibility with vehicle types creates tradeoffs with student safety (see "School Transportation and Student Safety," page 26). Flexibility in vehicle choice must be coupled with standards for vehicle safety features, driver qualification and training requirements, and policies designed to maximize passenger safety, such as age and height-based seat belt requirements.

Creating more flexibility in vehicle choice may also open opportunities for partnership with microtransit providers such as Bridj. Safety requirements, including requirements for driver training and background checks, would have to be aligned with school district policies to protect students, and relying entirely on small vehicles creates its own inefficiencies and environmental impact. For example, a fully loaded bus potentially removes as many as 72 personal vehicles from the school commute if every student were transported individually in a car, and more cars on the road means greater traffic congestion and more harmful emissions. But opportunities for coordination could emerge and prove efficient for addressing at least some specialized transportation needs (see "Could Microtransit Provide a New Alternative?" page 49).

Sidebar 6

Could Microtransit Provide a New Alternative?

Most people are familiar with the meteoric rise of ridesharing services like Uber and Lyft that are displacing cab service. Fewer are familiar with a new urban trend known as "microtransit," where multi-passenger vehicles provide transportation to commuters, basing routes on rider input rather than around fixed transit stops. Rather than the door-to-door service provided by ridesharing—which would not be very efficient for vehicles carrying a dozen people—microtransit uses centralized pickup and drop-off locations.[i]

Bridj is one example of these new microtransit companies. Launched out of Boston in 2014,[ii] Bridj operates small fleets of passenger vans during typical commuting hours. People reserve a spot on these vans through the company's mobile app.[iii] Routes are "user-generated," determined by combining demand data from users with information on traffic patterns and special events.[iv] Bridj also uses walk time data to find central pickup locations, roughly five minutes away from all users.[v]

All riders are dropped off at the same spot, again determined based on their requests. This might be a public transit station or simply a neighborhood where many people work. Routes can change daily based on real-time data.[vi] According to the company's website, this method generates a trip that is 40 to 60 percent more efficient on average than traditional transit, with a price point of $2 to $6 per trip.[vii] Bridj currently operates in Boston, Washington, D.C., and Kansas City, MO, with planned expansion to Austin, TX.[viii]

In Kansas City, Bridj operates as a pilot program in partnership with the Kansas City Area Transportation Authority. Each trip costs $1.50, the same as the local bus fare, payable through Bridj's mobile app. Drivers of Bridj vans are employees of the transit agency. Ford Motor Company also serves as a partner in the endeavor, and has provided 10 new vans, each of which can carry up to 14 passengers and is equipped with free WiFi. If the program is successful, it could spread to other cities, allowing their transit agencies to capitalize on the flexible, technology-driven transportation options that have become increasingly popular in recent years.[ix]

While microtransit companies have not yet partnered with school districts, at least one district is considering the possibility. Ross Wilson, former chief innovation officer at Boston Public Schools (BPS), has expressed interest in partnering with Bridj, also based in Boston. BPS spends over 10 percent of its annual K–12 budget on school transportation. That amounts to about $2,000 to $5,000 per student per year, or $16 per student trip—double or triple Bridj's price estimates. Additionally, Boston families that qualify for afterschool programs can already opt for a voucher to cover other transportation arrangements of their choosing. According to Wilson, expansion of that program could open the door for transitioning more students to a system like Bridj's, especially in areas underserved by public transit.[x]

It remains to be seen how a district partnership would be structured, and there are potential tradeoffs. For example, using a larger number of smaller vehicles, rather than buses, may limit possible environmental benefits, and passenger vans are less safe than school buses. (For more information on school bus safety, see "School Transportation and

Continued on next page

Sidebar 6 *continued*

Student Safety," page 26.) Districts would also have less power to ensure that drivers meet the necessary criminal history and background check requirements. However, as districts continue to lag behind other service providers in both efficiency and technology, microtransit could quickly arise as an alternative or supplement to existing school transportation systems.

i Randy Rieland, "Is Bridj the Next Phase in How People Will Get Around Cities?," *The Smithsonian*, February 25, 2016, http://www.smithsonianmag.com/innovation/next-phase-how-people-will-get-around-cities-180958219/.

ii Ben Brody, "New Bus Companies Aim to Hack Your Commute," CNN Money, June 17, 2014, http://money.cnn.com/2014/06/17/news/luxury-buses/.

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iv Gillis Bernard, "How Bus Startup Bridj Will Cut the Price & Time of Your Morning Commute," BostInno, May 13, 2014, http://bostinno.streetwise.co/2014/05/13/groupzoom-bridj-boston-launch-date/.

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vi Ross Wilson, former chief innovation officer, Boston Public Schools, phone interview, March 29, 2016.

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x Brent Wistrom, "Austin is Getting a New, Data-Driven Shuttle Bus Service," AustinInno, July 29, 2016, http://austininno.streetwise.co/2016/07/29/austin-busses-bridj-enters-market-with-data-driven-shuttle-service/.

The federal government should consider allowing exceptions to tripper regulations to enable school districts and transit systems to integrate school and public transportation services.

Greater design flexibility could also lead to more coordination between various modes of transportation. The federal government should consider allowing exceptions to tripper regulations to enable school districts and transit systems to integrate school and public transportation services. Allowing for transit buses to make dedicated school runs in the morning and afternoon would eliminate the efficiency loss associated with school buses sitting idle all day. And integrating school transportation in the context of the overall transportation system of a city would enable school transportation to benefit from the knowledge, systems, and expertise of the broader transportation sector and would ensure that the transportation sector considers the impact of schools on the larger infrastructure of the city.

Loosening federal tripper regulations to enable integration of school and city transit systems is one step toward considering more fundamental changes to the way school transportation is provided, but considering school transportation, particularly in metropolitan areas, on a regional basis and as a part of the larger regional infrastructure would take this notion even further.

And knowing that robust infrastructure around transportation management already exists in many metropolitan areas prompts the question of why school districts are in the bus business at all.

"Outside the Box" and Beyond the School District: Opportunities for Cross-Sector Regional Planning and Coordination

For decades, school transportation has been managed almost entirely by school districts. Transportation adds to a long list of responsibilities districts undertake that are only tangentially related to their core instructional mission, such as food service, building construction and maintenance, and other tasks. Outside of school transportation, at the federal, state, and municipal levels, entire departments staffed with specially trained transportation experts manage and operate systems that run on the same streets as school buses, but with little to no operational overlap.

The previous recommendations in this report focus on solutions aimed at improving systems still primarily operated by school districts in isolation. And in many districts, no alternative to a district-run system exists. But in other districts, particularly those located in sizable metropolitan areas, an enormous transportation planning infrastructure likely already exists and could be tapped to coordinate, improve, or even offload student transportation services. Working with this regional transportation infrastructure would primarily affect districts in urban and suburban areas, rather than rural areas; however, as of 2014, more than 85 percent of America's K–12 students lived in metropolitan areas.[134] Each year, billions of dollars from federal, state, and local sources are spent to improve transportation systems in these areas.

Specifically, metropolitan planning organizations (MPOs) and regional councils (RCs)—which both may address regional transportation issues—offer opportunities for school districts to leverage knowledge and talent in the transportation sector and to coordinate to find efficiencies and improve service.

Specifically, metropolitan planning organizations (MPOs) and regional councils (RCs)—which both may address regional transportation issues—offer opportunities for school districts to leverage knowledge and talent in the transportation sector and to coordinate to find efficiencies and improve service. Understanding what might be possible and what actions would be required to facilitate options for integrating school transportation in the larger transportation sector context requires some understanding of federal and state transportation funding and planning policy.

Overview of the Federal Role in Regional Transportation

The federal role in regional transportation funding, planning, and regulation is largely governed by periodic transportation authorization bills. These authorizations, usually for five or more years at a time, set policy and funding parameters for both the annual appropriations process and the executive branch rulemaking process, led by the U.S. Department of Transportation.

The current federal transportation authorization—called the Fixing America's Surface Transportation (FAST) Act and signed by President Obama on December 4, 2015—authorizes $305 billion over fiscal years 2016 through 2020 for highway and motor vehicle safety; public transportation; motor carrier safety; hazardous materials safety; rail and research, technology, and statistics programs.

Traditionally, the federal transportation program has passed funding down to states, which then plan and implement transportation projects and maintenance within the parameters set by federal law. This system affords a great deal of discretion to state departments of transportation, a condition reflected in the often widely disparate priorities and operational norms among states. This "devolution" has grown in recent years, as the primary historical purpose for a federal transportation program—constructing the interstate highway system—has become almost entirely built out. The degree of control that state departments of transportation, along with governors and legislatures, have over the allocation of federal dollars and the prioritization of transportation needs can drive frustration for localities, metropolitan regions, and some transportation advocates. State priorities are often skewed toward rural (and therefore car-centric) needs because of the strong rural voice in many state legislatures and the particular needs of those communities.

In parallel, though, is the federally mandated system of Metropolitan Planning Organizations (MPOs), bodies that are required to exist when a metropolitan area reaches at least 50,000 in population as defined by the U.S. Census. MPOs are responsible for producing long-range (20-plus-year) plans for regionally significant transportation projects, along with shorter-term (six-year) Transportation Improvement Programs for the region that serve as the official listing of the projects that all the region's jurisdictions have approved and intend to implement in the near future. Any transportation project within the metropolitan area being built with federal funds must be included in these regional plans. The approval processes and makeup of MPO voting boards vary greatly from region to region, but typically include broad involvement and representation of the region's political jurisdictions.

The existence of MPOs is attributable to federal efforts in the 1960s to improve the nation's air quality. Creating a structure of metropolitan-level transportation planning bodies allowed for metropolitan-level analysis of the impact of current and future transportation conditions on air quality, which is itself a largely metropolitan-level phenomenon. The bulk of federally mandated MPO activities are therefore focused on this mission, and the carrots and sticks wielded by the federal government to influence transportation decisions at the state and local levels center on regional air quality metrics.

In the past 25 years, however, federal authorization legislation and corresponding executive rule-making have both expanded requirements and increased the ability of MPOs to take on additional roles and activities. MPOs are often paired with or housed within Regional

Councils (RCs), which do not have a federal mandate or federal oversight in the same manner as MPOs but exist in many regions as an additional coordinating body that deals with issues outside of transportation. MPOs, usually in conjunction with RCs, now engage in an array of planning activities touching on land use, public health, safety, emergency preparedness, and even, in some cases, schools. Again, the breadth of MPO activities varies from region to region, particularly related to the size of the metropolitan area and corresponding size of MPO (and RC) staff. (For more information, see "What are MPOs and RCs?" page 15.)

The current federal FAST Act only addresses school transportation project funding in the context of the Safe Routes to School program, and the only other significant federal involvement in school transportation is around manufacturing and safety regulation and establishing rights for special student populations.

Though the current federal role in school transportation is minimal, Safe Routes to School provides a particularly good example of MPO coordination in the case of the regional task force created by the San Luis Obispo (CA) Council of Governments (SLOCOG), which serves as that area's MPO. The task force includes representation from the school district, regional transportation officials, public health agencies, local planning offices, and law enforcement, with PTA involvement as well. SLOCOG manages this initiative via its regional rideshare program.[135]

Making the Case for Cross-Sector Coordination:

Case Study, Hillsborough County, Florida

At present, few school districts are working with regional planning organizations to improve their transportation services. Our research identifies only one school district with representation on its local MPO—Hillsborough County Public Schools (HCPS), serving the Tampa, Fla., area.

Few school districts are working with regional planning organizations to improve their transportation services.

HCPS is one of the largest school districts in the country, employing more than 26,000 employees and transporting nearly 90,000 students each day.[136] It runs more buses than the local transit authority and is roughly the size of the state of Maryland.[137]

To date, structured communication with the regional planning agency—in this case, the Hillsborough MPO—is a new, and so far limited, venture, but this burgeoning relationship holds promise for improved transportation coordination and benefits both for the school district and the larger community.

During the most recent economic recession, school transportation issues in Hillsborough County were "put on the back burner," according to school board member Cindy Stuart, which led to multiple problems. For example, prior to a recent upgrade, the school district was using routing software from the 1970s. And when a middle school converted into a magnet school with the same start time as a nearby high school, traffic conditions worsened and spawned complaints from the community. Additionally, the district brought in a consulting group to conduct a financial review, which found that HCPS was providing roughly $2 million in "courtesy busing"—busing not required by the district's eligibility rules.[138]

However, the idea of including school transportation as part of Hillsborough County's broader transportation planning ultimately came from an unlikely source: a local government intern in the county, Kevin O'Hare, who was a high school student at the time. Given the size of the school district's transportation operation, he did not understand why it was not part of the conversation.

So, as a project for his local government internship, O'Hare organized an event on education and transportation planning featuring presentations from several transportation experts. The list of attendees included a county commissioner, two members of the school board, and Tampa City Councilwoman Lisa Montelione, who is also a member of the Hillsborough MPO board.[139]

Montelione agreed with O'Hare that the district needed to be more involved in transportation planning, and the MPO eventually added Stuart—who was selected by her fellow school board members—as a voting member on its own board. The momentum has continued, as earlier this year the MPO formed a School Transportation Working Group, chaired by Stuart, in order to bring together different transportation and education stakeholders for improved communication.

The idea for the working group was inspired by a similar body in a nearby county, Pinellas. Pinellas County has a School Transportation Safety Committee, composed of local elected officials and school board members, that works to address issues related to school transportation access, safety, and coordination.[140] However, while this committee provides input to its local MPO, it is not embedded within the MPO itself like Hillsborough's working group.

Hillsborough's working group includes more than 30 members from various groups, including representatives from HCPS, the local Parent Teacher Association, the Hillsborough County Public Works Administration, the local transit authority, county and city police, and the Florida Departments of Health and Transportation.[141]

The group's goal is to create awareness around how different stakeholders' decisions affect one another and identify opportunities for coordination. In its first meeting, the members of the working group collectively identified and ranked a range of issues for consideration, including:

- Traffic circulation and safety;
- Charter and magnet school siting and transportation needs;
- Regional bus routes and schedules; and
- High costs of school busing and potential alternatives.

Once its work concludes later this year, the group will present its findings and recommendations to the MPO board. Those recommendations could be folded into the MPO's plans for funding future projects. Additionally, the working group could become a permanent committee, either independently or within the MPO.

In the meantime, members of the group have already seen improved communication. For example, HCPS has now provided the transportation department with its schools' attendance zones for the first time. Representatives from the sheriff's office have instructed the group on the process for requesting crossing guards, and the state Department of Transportation has shared information on its "safe routes to schools" grant program that will help improve the district's application for funds. Additionally, the district is planning to conduct transportation analysis with assistance from the MPO, rather than paying to outsource that work to a private firm.

It remains to be seen what the ongoing structure and ultimate impact of the transportation working group will be, but for such a large district, regional coordination is a first step toward improving the function of school transportation for students and the broader community.

Simply advocating for a "school seat" at the transportation table could be a relatively easy and critical first step.

Simply advocating for a "school seat" at the transportation table could be a relatively easy and critical first step in many metropolitan areas to ensure communication across perspectives. In an area like Hillsborough County, where school districts are large and a single district covers most, if not all, of the territory under the MPO's jurisdiction, coordination may be easier. But communities where multiple school districts operate within an MPO's boundaries could benefit, possibly even more, by communicating regularly across both different service sectors in the community and across school jurisdictional boundaries about common transportation challenges and issues.

The type of low-stakes, communication-focused regional coordination HCPS is undertaking with its MPO and other stakeholders represents one end of a continuum of potential roles for the larger transportation community in supporting school transportation. At the other end, we can imagine a region where the school district relinquishes operation of its transportation system to the transportation experts, placing that function within the MPO. And there are numerous points in between, but incentivizing these arrangements for both the transportation and education sectors would require rethinking the policies that govern them.

The Range of Possible Federal Interventions in School Transportation

Federal intervention in the coordination of school transportation could range from mere encouragement of MPOs to take on a role in coordinating school transportation across their regions, all the way to requiring MPOs to perform this function and produce very specific planning documents and even particular outcomes. The distinction between "may" and "shall" in federal law is an important one here. Most instances of federal encouragement of MPOs to engage in particular activities or consider particular issues have been squarely in the "may" category, especially of late, as the general political mood around transportation is opposed to additional federal mandates. This does not mean that a "shall" proscription is completely beyond the pale, however, especially if a case is made that severe fiscal inefficiencies are created by a school transportation system that lacks regional coordination and involvement by transportation planning professionals.

Any change at the federal level is aided in implementation by working with relevant associations and advocacy groups to help disseminate information nationally and train MPO staff on how to use the changes to best effect. Such groups could include the Association of Metropolitan Planning Organizations (AMPO), the National Association of Regional Councils (NARC), and the advocacy organization Transportation for America.

Described below is a spectrum of possible federal implementation steps, ranging from least to most aggressive.

Agency Letter

The easiest, but also likely the least impactful federal intervention would be a multi-department letter from the executive branch to MPOs and other transportation planning and implementing agencies. An example of this is the "Dear Colleague" letter jointly issued in June 2016 by the U.S. Departments of Housing and Urban Development, Education, and Transportation. The letter cites the recent HUD Affirmatively Furthering Fair Housing Rule and calls on local education, transportation, and housing leaders to work together to further educational opportunity via the collaboration opportunities provided by the new rule. This letter does not specifically mention the coordination role played by MPOs and Regional Councils. A similar letter, however, could explicitly call on MPOs and RCs to address regional school transportation issues. An advantage of this would be that it could happen before the next authorization of the federal transportation law, which will not be passed until 2020 at the earliest. It should be noted, though, that the aforementioned letter was issued as a follow-up to a new HUD rule, which is itself part of a larger legislative context. It's unlikely that the relevant agencies would issue such a letter completely out of the blue.[142]

Amending Planning Priority Language in Federal Authorization

As with any federal legislation, two primary modes of influencing implementation exist, influencing the language of the law itself and influencing the regulations that executive branch agencies adopt based on the law. The USDOT is currently engaged in the rulemaking process for the most recent authorization of the FAST Act. The ability to insert provisions specific to coordination of school transportation depends on the timing of that process and the presence of text in the law itself that could be interpreted to allow for any elaboration on school transportation.[143]

Though the FAST Act is not up for reauthorization in the near future, there are many possibilities for encouraging or requiring coordination across the transportation and education sectors for school transportation. MPOs are an appealing target because they already play a regional coordination role and they have federally mandated responsibilities and federal oversight. One option that would require MPOs to at least consider school transportation issues in their planning, but would come short of actually vesting in them power over school transportation planning or operations, is to make an addition to the "Planning Factors" that MPOs are required to address in their long-range plans. The planning factors are designed to be a reflection of federal policy priorities; the current regulations include the various planning factors, including:

- Supporting the economic vitality of the metropolitan area;
- Increasing the safety and security of the transportation system;
- Increasing accessibility and mobility;

- Enhancing the integration and connectivity of the transportation system;
- Promoting efficient system management and operation; and
- Protecting the environment, promoting energy conservation, and improving quality of life.[144]

The number of planning factors has fluctuated over time, in a cycle of adding, deciding there are too many, then consolidating, and then adding again. If a compelling case can be made to federal legislators, with support from transportation and education stakeholders, an amendment to the planning factors could be feasible.[145]

Inserting Specific MPO Planning Requirements in Federal Authorization

Inserting actual requirements into the next federal authorization in conjunction with an amendment to the planning factors represents a heavier political and policy lift, but potentially a much more impactful option. To be maximally effective in altering the way MPOs consider school transportation in their planning processes, a new law could require MPOs to do the following:

- Through a special temporary task force, develop a report on school transportation trends, needs, and best practices for the region. This report should clearly detail measures of success and desired outcomes across multiple metrics including school access, safety, and efficiency.
- Create a standing committee, reporting directly to the MPO board, which would oversee planning activities for school transportation region-wide. Legislation could even outline the membership of that committee (requiring broad representation from both the school and transportation sides) and its activities.
- In a process led by that committee, develop a list of both capital transportation projects and management/operations changes that are needed to achieve the desired outcomes outlined in the report. These could include things like redesign of problem intersections near busy schools, increased public transit serving school locations, sidewalk or other infrastructure improvements, and formation of regional school transportation operations coordination teams.
- Fund these projects and activities at a consistent level through a separate pot of sub-allocated federal dollars. This could take the form of a competitive grant process through which MPOs would award funds to localities for specific projects, could be integrated in the overall regional project prioritization process, or could be some combination of the two.

Completely Shifting Both Planning and Operations Control to MPOs

The above list encompasses only planning and capital project implementation; a separate question is actual operation of school transportation networks. Turning that completely over to MPOs would constitute a large and unfamiliar new responsibility for most MPOs, which are not typically involved in actually operating transportation systems. This is not to say it could not be done, and in fact many MPOs have experience in working with private-sector transportation service providers such as those that provide student bus transportation for many school districts. There would likely be significant institutional opposition to such a shift, however, even if it were to be a fully funded mandate.

Conclusion

School districts face tremendous challenges in providing cost-effective and operationally efficient school transportation service. Even absent changes to the structure of school systems and divergence from traditional neighborhood school models, school bus service is a complex and costly system for districts to run. Few states fully fund the cost of student transportation, and many state funding streams for transportation fail to adjust for increased costs. As a result, districts must divert funds from other programs and priorities or put off capital investments in new equipment, data and technology, and infrastructure—tradeoffs that may be detrimental to student safety, operational efficiency, and environmental impact.

At the same time, rigid regulation of school transportation by states prevents districts from exploring more efficient operational models. And federal limitations restrict coordination with the public transit system. The regulatory environment combined with funding challenges presents significant barriers to district ingenuity and innovation.

Layered on top of that is the growing need in many communities for transportation services to evolve to accommodate school choice options. It is not just a matter of convenience; whether or not students can access transportation to and from schools of choice may determine whether those choices are truly viable for many families.

Remedies for many of these problems include relaxing the regulatory environment and creating incentives to encourage innovation. But to truly ensure that school transportation meets the needs of evolving school systems, federal, state, and local policymakers should consider whether schools ought to be providing transportation services at all. Breaking down the barriers between the transportation sector and the education sector—either in small ways through coordination, or larger ones through actual integration of service provision—may be a strategy that addresses both students and school needs and better serves their larger communities.

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